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A HISTORICAL AND CRITICAL SURVEY OF THE STUDY
OF SPEECH-MELODY, 1775 - 1923.

Thesis presented for the Degree of Ph. D.
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i.

INTRODUCTION.

The subject of this thesis suggested itself to me when, as Carnegie Research Assistant, I was engaged in preliminary investigations in a wider field - that of the comparative study of English, French and German speech-melody.

As a preparation for that study it was necessary that I should acquaint myself with the literature of speech-melody generally. I found, however, that my path was beset with difficulties from the very beginning, for, on consulting the catalogues in the British Museum Reading-Room under the headings: "Speech-melody" and "Intonation", all the help I got was: Speech - see Voice -. I looked up Voice and found the following: Voice: Speech: Singing: and among others the comparatively useless items:

Macnamara (N.C.): Human Speech.

Stainer: Choral Society Vocalisation.

Bates (J.): Voice Culture for Children.

A note, however, told the inquirer to "See also Elocution: Language: Larynx: Music." After consulting all these I found myself /

myself no better off than before and utterly in the dark as to where to look for my information.

It was quite evident that no bibliography of the subject existed, and that therefore I should be under the necessity of compiling one myself. I was tolerably conversant with most of the twentieth and some of the nineteenth century literature dealing with speech-melody, but I wanted to know how far back the study went, and how it had developed. This too I had to find out for myself. My investigations resulted in this thesis: "A historical and critical survey of the study of speech-melody."

It aims are:

- (1) To trace in broad outlines the development of the study from 1775-1923. I say "broad outlines" because a detailed study of each writer on speech-melody would not have been possible within a moderate compass.
- (2) To provide the student of speech-melody with a bibliography, and thus save him from the labour and drudgery which /

which I had myself to undertake.

As regards the history of the subject some interesting discoveries have been made, but these are dealt with in the conclusion (p.112) As far as the bibliography is concerned, I can only hope that I have not omitted any work of outstanding importance.

In the thesis the term 'melody' is used in the non-technical sense, and by 'speech-melody' is meant 'intonation',^{1.} or the variations in the pitch of the voice during speech. All speech has 'melody' in this sense. Speech without 'melody' results in incomprehensibility and wearisome monotony. Daudet gives us an inimitable picture of the effect of such speech in that delightful scene in 'Les Vieux' where the little girl reading aloud 'la Vie de Saint Irénée', pauses at each syllable, with the result that an irresistible drowsiness overpowers every living thing in the room save the dancing motes of the sunbeam.

1. D. Jones: Outline of English Phonetics. Teubner. Leipzig. 1914. p.136.

Speech-melody in so far as it is expressive of the emotions appears to be approximately the same in all languages, but, besides this universal melody, there exists another which is used in ordinary unemotional utterance. It is a specific, formal melody, characteristically different for each nation, province, town and even, it may be, village. J.M. Barrie describes how 'Tommy' in a London street instantly recognises the 'Thrums' tongue.

In order to systematise the peculiar intonation of a foreign language it is necessary to differentiate between the universal melody of emotional utterance and the specific, formal melody of unemotional utterance. Many writers on speech-melody fail to do this.

The study of speech-melody goes back to the time of the Greeks and Romans, who, it appears, were so impressed by the variations in the pitch of the voice during speech that they attempted to give rules for the pitch they observed. The Latin *accentus* meant pitch like the Greek *πρὸς ᾧ δία* And the /

the Greeks, we know, invented symbols - written accents - by which they claimed to represent variation of pitch.^{1.}

Dionysius of Halicarnassus tells us that every Greek vowel marked with an acute or circumflex accent was a fifth higher than its neighbours. This was probably true of isolated words, but could this really have been the case in connected speech? It would appear that it is only in primitive, undeveloped languages that words retain their fixed determined pitch in a sentence?^{2.} As Thomson^{3.} points out it seems incredible that Greek should stand lower than existing languages in Central Africa.

The interesting point for us in this controversial question is, that although the Greeks may have failed to record accurately pitch variations in connected speech, they at least realised the importance of attempting to record speech-melody graphically /

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1. According to Mr. William Thomson (The Rhythm of Speech, Maclehose. Glasgow. 1923.p.p.49-55) the contention that "classical accent was one of pitch, which only changed to one of stress some centuries after the beginning of the Christian era", appears to be "radically unsound."
 2. See Panconcelli-Calzia: article in 'Die Neueren Sprachen.' Vol.XX. p.594.
 3. op. cit.

graphically in order to "perpetuate that shifting and shift¹y element pitch."

The symbols they used - the acute, grave, and circumflex accents - continued to be used by many writers on speech melody up to the twentieth century.

Long centuries passed before an attempt was made to analyse and record the pitch variations of modern European languages. And it is to the prosodists that we have to turn in the first instance for information on the subject.

In England the systematic study of speech - melody practically begins with Joshua Steele (1775). None of the earlier prosodists seems to have concerned himself with pitch - varia²tions. Therefore it is Steele's contribution that first claims our attention in a historical and critical survey of the study of speech-melody.

1. Thomson: op. cit. p. 15.

2. See T.S. Omond: English Metrists: Clarendon Press, Oxford. 1921. pp.1-90

Joshua Steele's contributions to the study of Speech-Melody as contained in the 'Prosodia Rationalis'- 1775.

When Joshua Steele in 1775 criticised Lord Monboddo's statement "that the music of the English language was nothing better than the music of a drum, in which we perceive no difference except that of louder or softer," and subsequently proved to the satisfaction of Lord Monboddo himself that "English speech is not monotonous and that it has a melody of which we have always felt the force even while we denied its existence," the first definite step in the direction of a systematic study of speech-melody was taken.

Though the critics of the 18th century considered it "more a matter of curiosity than utility to observe the accents (i.e. melody) of our language" Steele with unusual perspicacity observed and analysed the tone-phenomena of English speech, and his attempt is virtually the first serious contribution to the study of speech-melody. As such it is worth considering in detail.

Steele is best known as a prosodist, and it is in his 'Prosodia Rationalis'¹ that his observations on speech-melody are /

1. The references are to the 2nd Edit. 4to., 1779.
The first (incomplete) edition was published in 1775.

are to be found. The book, T.S. Omond tells us, "is less a consecutive treatise than a series of tracts," a record of the friendly though argumentative correspondence between Steele and Lord Monboddo. Steele was a fellow of the Royal Society and had been invited by the President, Sir John Pringle, to write remarks on Monboddo's view of verse.¹ We must, however, confine ourselves here to the sections of the correspondence dealing with speech-melody.

In seeking to controvert Lord Monboddo's view "that the music of the English language was nothing better than the music of a drum" Steele propounds the following example:- "Take three common men - one a native of Aberdeenshire, another of Tipperary and the third of Somersetshire, and let them converse together in the English language, in the presence of any gentleman of the courtly tone of the metropolis everyone of the four persons will perceive the other three have very distinct tones from each other." That is, they easily perceive a melody which is strange to them, but they are not aware of their own; for, Steele remarks, "the extreme familiarity existing between a man and his native language makes him lose all sense of its features." This is one of the fundamental truths which, as we shall see in the course of this survey are continually /

1. Cf. T.S. Omond, English Metrists. Clarendon Press, 1921, pp. 87 - 95 for criticism of Steele as a prosodist.

continually being rediscovered.

Further, Steele not only recognised that "our language has a species of song peculiar to itself," but he also points out the difference between the melody of speech and that of song. "The melody of speech moves rapidly up and down by slides too rapid (for inexperienced ears) to be distinctly subdivided whilst almost everyone perceives and admits singing to be performed by the ascent and descent of the voice through a variety of notes as palpably and formally different from each other as the steps of a ladder." This distinction between song and speech was well understood by the Greeks, but Steele is not indebted for the discovery of this distinction to any other source of information than his own ear.

It is interesting to note that a hundred years after Steele phoneticians define the difference between song and speech in similar terms.¹

In order to demonstrate with accuracy the nature and extent of the 'slides' we make in speech, Steele devised an elaborate scale consisting of tones, semi-tones and quarter tones. The five black lines of the musical stave were interspersed with fainter lines indicating semi-tones and quarter-tones. On this elaborate stave the 'slides' (sloping or curving lines) were /

1. Cf. A. Ellis: *Speech and Song*. London. Novello and Co. 1877 p. 9 and Storm: *Englische Philologie*, Leipzig 1892 I. p. 206.

were drawn. But with a little practice he found that drawing the 'slides' on the common five black lines of the musical stave was sufficient to direct the voice to the proper tones; for, says Steele, "there is a great latitude which may be used without any seeming blemish; whether the slide runs a quarter of a tone or three quarters up and down more or less, seems of little consequence, provided the properties of ^wrythm_s, quantity and cadence are duly observed." That is, Steele recognised that the intervals between the tones in speech are not definite musical intervals.¹

With still more practice Steele found that drawing the slides simply over the syllables, without the lines of the musical stave, but with some regard to higher or lower, by position of the marks, was so certain a guide, that he could always read the sentence so marked nearly in the same melody. It is true that we cannot always agree with his readings, but the fact remains that we know approximately what these readings were. Take for instance, his notation of the melody of the first nine lines of Hamlet's solilo^oquy. We gather from this /

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1. Steele's observations on this point correspond with what E. Waiblinger proved scientifically in his thesis: *Beiträge Zur Feststellung des Tonfalls in den romanischen Sprachen* - Halle A.S. 1914, page 9. Waiblinger says: Wenn in der Musik irgendein Intervall um einige Schwingungen vergrößert oder verkleinert wird, so stört das den Eindruck des Ganzen empfindlich. Was die Sprache betrifft, so ist das ~~gegenteil~~ festgestellt worden.

this that Steele's criticism of his own delivery was a just one, for the passage is recorded "in the stile of a ranting actor." He became aware of this fact after hearing Garrick in the rôle of Hamlet, and comments on Garrick's smooth uniform delivery. In addition Steele notes a few of the differences in melody between his rendering and Garrick's. He tells us that Garrick pronounced the words "as flesh is heir to" as he (Steele) had marked them in a variation, where the two syllables heir, to, are both acuted (i.e. they are spoken with rising pitch), and "by that modulation give the idea of the sense being suspended for the thought which immediately follows."¹

With regard to the genuine quality of the melody of English speech Steele says naïvely: "I will not pretend to compare our language to the Greek; but as to its melody, I think it about as good as the Latin, and much better than French or German." Unfortunately he does not give any reasons for this sweeping statement. But that he was actually aware of one of the fundamental differences between English and French, speech-melody is brought out in his notation of the French word 'pensionnaire' as compared with the English word 'pensioner' /

1. It is interesting to observe that Steele's notation of Garrick's rendering of the words "as flesh is heir to" corresponds with the notation I have made of the words as spoken by Sir Herbert Beerbohm Tree (His Master's Voice record. Catalogue No. E 162.)

'pensioner'. He indicates the rise in pitch for the middle syllable, and the abrupt fall in pitch for the final syllable of the French word, and the fall in pitch on the unaccented middle and final syllables of the English word.

Steele also remarks that "the dialectic tone of the court and other polite circles rises but little above a whisper." This low, even tone was regarded as a sign of good-breeding.¹

On the other hand Steele observes that in the provincial dialects "the slides are enlarged to the extreme." He notes too that the range of intonation is greater in emotional than unemotional utterances. "The tones of passion are distinguished by a greater extent of the voice both into the acute (rising pitch) and the grave (falling pitch) and by making the antithesis or diversity between the two more remarkable."

Steele even records the melody of some of the scraps of conversation he hears round about him. For instance, while he was explaining a passage in his book to a friend, "a sudden summer torrent of hail and rain fell, and beat into the next room /

1. Cf. Mrs Browning's lines in "Aurora Leigh":-

She had the low voice of your English dames,
Unused, it seems, to need rise half a note
To catch attention.

Also Taine: Notes sur l'Angleterre 6^e. éd. Paris 1880, p.66.
'Les Anglais parlent extrêmement bas. Une société italienne dans laquelle je me suis fourvoyé par hasard; m'a positivement assourdi; je m'étais habitué à ce ton modéré des voix anglaises.'

room," when he heard the housekeeper say: "some came down the chimney, some came in at the sash," Steele notes the melody of this phrase, and it is interesting to observe the expressive rise in pitch on the first syllable of the word 'chimney', and the fall in pitch on the word 'sash' indicating completion of the sentence.

Steele collected his material "from repeated experiments on his own language," and he deplores the fact that "a great deal of time and pains have undoubtedly been thrown away in discussions concerning the pronunciation of the antient, now dead languages, and in endeavouring to explain the tones, properties, and affections of their letters and syllables." And he urges the "men of letters" to bestow "the like labours in analysing and separately examining the several elementary properties and accidents of our living language. In thus advocating the scientific study of a living language, in preference to a dead one, Steele showed himself far in advance of his time.

Critics he had in plenty and it must be admitted that he could not always answer their questions satisfactorily. For instance, the following question was put by Garrick after Steele's system had been explained to him. "Supposing a speech was noted, according to these rules, in the manner he spoke /

spoke it, whether any other person, by the help of these notes, could pronounce his words in the same tone and manner exactly as he did?"

Garrick here touches the very heart of the matter and Steele has not grasped the full significance of Garrick's query. He evades the question, and merely points out that "though these rules may enable a master to teach a just application of accent, emphasis and all other expressions of the voice in speaking, which will go a great way in the improvement of elocution, yet they cannot give a sweet voice where nature has denied it."

1

Some of Steele's critics considered his attempt impracticable and useless, and at their hands his work did not receive the recognition it deserved. But Steele saw further than his critics and "aspired to lay a foundation for others to build on" - "so that even the vulgar" might be taught to know what "the learned" could then "scarce comprehend."

The fact remains that in his teaching Steele anticipated many of the views of later writers on speech-melody, and his observations entitle him to an honourable place among the pioneers in the field of "tonetic" research.

1. See Notes on Steele's critics and followers p.26.

The following is a short summary of the most important observations made by Steele.

1. English speech is not monotonous; it has a melody peculiar to itself.
2. We do not always perceive that melody, because we are so familiar with it; but we notice immediately a melody that differs from the one we are accustomed to use.
3. The melody of speech moves up and down by "slides".
4. The intervals between the tones in speech are not definite musical intervals.
5. The recording of the melody of speech can be reduced to a system.
6. It is advisable to use sloping or curving lines instead of musical notes to indicate the melody.
7. A rising tone denotes uncompleted thought; a falling tone denotes completed thought.
8. The 'tone of the court' and other 'polite circles' differs from that of the provinces chiefly on account of the extremes of inflection heard in the latter.
9. The range of inflection is greater in emotional than unemotional utterances.
10. Study the living language!

II.

Thomas Sheridan's 'Lectures on the Art of
Reading'¹ (1775).

In the same year in which Steele published his 'Prosodia Rationalis' there appeared a book by Thomas Sheridan entitled 'Lectures on the Art of Reading.' The author, "retired actor and fashionable teacher of elocution," was the father of the famous Richard Sheridan, and seems to have been "a figure of some prominence in his day."

We are told² that by his investigation of the art of reading, Sheridan "improved both the detail and method of his subject, in the departments of pronunciation, emphasis and pause," but that unfortunately "he made no analysis of intonation." A close study of Sheridan's book, however, reveals the fact that this criticism is inadequate and even misleading, for, although strictly speaking he made no attempt to analyse pitch-variations in speech, nor to indicate them graphically, his observations on certain questions bearing upon speech-melody have a special interest for students of intonation.

At /

1. The references are to 1st edit. 1775 (London).

2. J. Rush: The Philosophy of the human voice. Philadelphia 1845. Preface page XXVI.

At first, it is true, the interest is negative rather than positive, for Sheridan, in his discussion of the meaning of 'accent' makes it clear that he considers English speech to have no 'accent' or 'melody' beyond a 'mere stress of the voice.' "The ancient accents, he tells us, consisted in the elevation or depression of the voice: the English accent, in the mere stress of the voice, without any change of note."

Further, English accent is exemplified by "the music of the drum," Greek accent by "the music of the trumpet."

In Scottish speech, however, Sheridan finds that "the three kinds of accents used by the Greeks are constantly employed in common discourse, but in an irregular and discordant state."

Thus for Sheridan

Greek 'accent' = intonation

Scottish 'accent' = intonation

but English 'accent' = 'mere stress of the voice without any change of note.'

Is it possible to account for this confusion? Why should Sheridan find that English 'accent' has nothing to do with pitch-variations?

We know, from our previous investigation of Steele's work, that the idea that English speech, as compared with other languages, was 'monotonous', was the popular opinion among grammarians /

grammarians of the 18th century. We have seen that Steele did his best to combat this view. Sheridan, however, states emphatically that English speech "is utterly unacquainted with the circumflex accent," which statement proves that Sheridan had not studied the '*Prosodia Rationalis*', where Steele draws attention to the many varieties of circumflex accent. Had Sheridan read the book, he might also have discovered that English 'accent' is not 'mere stress of the voice' that ~~is~~ like Scottish 'accent' consists also of pitch-variations, and that the reason why he had failed to recognise this was, as Steele had indicated in the '*Prosodia Rationalis*,' that "the extreme familiarity existing between a man and his native language, makes him lose all sense of its features." Sheridan did not hear the 'accent' or 'melody' of English speech, because in it nothing unfamiliar attracted his attention. But the strange 'accents' in the speech of the inhabitants of North Britain 'offended his ears.'

So obstinately does Sheridan, in his chapter on 'accent' adhere to the view that English 'accent' is 'mere stress of the voice without any change of note', that it is somewhat of a shock to discover that in 'emphasis' Sheridan recognises a change of tone. He finds an "absolute and constitutional difference between accent and emphasis," which consists in this: "that /

"that every emphatic syllable, besides a greater stress, is marked also by a change of note in the voice."

It is by these various tones or notes accompanying speech that we communicate our "internal feelings." "There is not an act of the mind, an exertion of the fancy, or an emotion of the heart, which have not their peculiar tone, or note of the voice, by which they are to be expressed." Further, Sheridan points out that this language of tones is instinctive. "The Author of our being did not leave the invention of this language to man, but stamped it himself upon our nature." Clearly then Sheridan has recognised in 'emphasis' one of the two main types of intonation - the universal intonation expressive of the emotions.

Like Steele, Sheridan recognised that the range of inflection is greater in emotional than unemotional utterances. "In a calm state of mind, the notes of the voice in unison to that state are little varied, and the words are uttered nearly in a monotone." The 'nearly' shows that Steele in spite of himself was beginning to realise that even unemotional speech has 'melody'.

Further, Sheridan's treatment of what he calls the 'irregular accentual' mode of utterance proves that he also recognised the other of the two main types of intonation - the specific / ,

specific, formal melody which is characteristically different for each nation, province, town, and, it may be, even village. But Sheridan persists in calling this intonation a 'brogue' and condemns its 'artificiality'. He would have his readers use only the melody of 'polite' English speech; for "the few natives of England who speak their language correctly, use no change of notes in common discourse, but what results from the meaning or sentiments." This statement must be regarded as qualifying his former view that English speech has no melody, beyond a 'mere stress of the voice.'

What does his new way of looking at things amount to? Merely to this, that Sheridan still denies the existence of the specific, formal melody of English speech - 'polite' English speech, that is; for the provinces etc. have their specific melodies, their 'brogues' - and has focussed his whole attention on the universal intonation expressive of the emotions. This he believes to be the only true melody, and it is this melody which he regards as characteristic of 'polite' English speech and which he urges should be brought to the highest degree of perfection. The 'brogues', on the other hand, should not be "suffered"!

Sheridan's further observations on the teaching of intonation are not lacking in interest. He finds "that the chief reason /

reason of the general abuse of emphasis (i.e. intonation), seems to be, that children are taught to read sentences, which they do not understand; and as it is impossible to lay the emphasis right, without perfectly comprehending the meaning of what one reads, they get a habit either of reading in a monotone, or if they attempt to distinguish one word from the rest, as the emphasis falls at random, the sense is usually perverted or changed into nonsense." The way to prevent this, is, "to take care that they never read anything whose meaning they do not fully comprehend. The best way, indeed, of furnishing them with lessons for a long time, would be to take down their common prattle, and make them read it, just as they speak it; only correcting any bad habits they may have acquired in their utterance."

With regard to persons more advanced in life, who have contracted a habit of neglecting, or misemploying 'emphasis' in reading, the best way to remedy this will be "to dedicate a certain portion of time every day to reading aloud some passages from books, written in an easy, familiar style; and, at every sentence, let them ask themselves this question: How should I utter this, were I speaking it as my own immediate sentiments? In that case, on what words should I lay the emphasis, and with what change of notes in the voice? Though at first /

first they may find, that their former habit will counteract their endeavour in this new way, yet, by perseverance they will not fail of success; particularly if they will get each sentence by heart, for some time, and revolve it in their minds with that view, without looking at the book. Nor should they be discouraged by frequent disappointments in their first attempts, but repeat the same sentence over and over, till they have satisfied themselves. For it is not the quantity that they read, which is to be regarded in this case, but the right manner of doing it."

The discussion of the proper use of 'emphasis' in reading, leads Sheridan to formulate a fundamental principle of correct reading and speaking - the proper division of texts into speech-groups. It is in connection with this question that we make the astonishing discovery that Sheridan in 1775 recognised the decisive importance of the speech-group on which the whole science of intonation is based.

The question of what constitutes a speech-group or tone-group has been earnestly debated by phoneticians of the present-day; and no further back than the Spring of 1923 an article appeared in one of the leading European Modern Language papers¹ announcing the fact that "the key to the mystery of intonation" lay in the recognition of a speech-group as an "intonation /

1. Moderna Språk, Årg. XVII. 2 - 4 Malmö. April 1923.
Article by D. Elfstrand.

"intonation sense-group," and that this had at last been definitely established by a contemporary writer on intonation.¹

Now, on examining Sheridan's speech-groups in the light of 20th century criticism, we find that they are in all respects similar to the examples of speech-groups given by the contemporary writer referred to above. That is, Sheridan's speech-groups are not 'stress-groups' or 'groupes d'accentuation', but 'groupes d'énonciation' or 'sense-groups.'

Let us see what Sheridan himself says about the proper division of texts into speech-groups. He begins by pointing out that "the art of punctuation has always been in a very imperfect state, with regard to its professed end, that of dividing periods and sentences properly into their respective members continual instances occurring, where the voice ought to be suspended, without any comma appearing; and instances as frequent, where commas appear in places in which there ought to be no suspension of the voice." Thus the speaker /

1. Professor Klinghardt, a well-known German phonetician. Author of "Französische Intonationsübungen" and "Übungen im Englischen Tonfall." Quelle u. Meyer. Leipzig.

2. "Groupes d'énonciation, c'est à dire les petits groupes de mots intimement liés, entre lesquels on peut à la rigueur s'arrêter dans une énonciation très ralentie," J. Passy et Rambeau: Chrestomathie française, 57, Introduction.

speaker or reader should not follow such erroneous guides, but, if he wants to convey his meaning clearly, "he should be guided by the sense alone."

Steele, in dividing his sentences, had applied musical methods, i.e. he inserted a bar line before each strongly stressed syllable in the sentence. But Sheridan recognised that a speech-group was essentially a sense-group, and, as we have pointed out above, in this he anticipated our 20th century phoneticians.

In dividing his texts into speech-groups Sheridan used special symbols - acute accents - and these not only marked the limits of the speech-groups, but indicated roughly the length of the pause.

The following example, taken from one of Sheridan's marked passages, shows his speech-group division; but, in order to facilitate comparison with modern grouping, vertical lines | or ||, marking the limits of the speech-groups, have been substituted for the symbols used by Sheridan, and the length of the pause has not been indicated.

"In order to prove this | I must beg my hearers to recollect
a proposition | sufficiently made out in a former discourse | that
the mere language of ideas | whether written | or spoken | can |
of itself | have no other power but that of conveying knowledge |
~~and~~

and improving the understanding || To touch the heart | and
 agitate the fancy | it is requisite that the language of emotions
 should be joined with it | the language of tones | looks | and
 gesture." ||

The above division demonstrates further that Sheridan recognised the fact that a speech-group may consist of a single word, or a series of words.

Having gone so far in determining the true nature of the speech-group, it is a matter for regret that Sheridan made no attempt to indicate intonation graphically. He does, it is true, use a symbol - the Greek grave accent to mark the 'emphatic' words in a sentence, but this one symbol covers the whole wide range of inflection. Sheridan does not attempt to analyse intonation.

Summing up, and comparing Sheridan's contribution to the study of speech-melody with that of Steele, we find

- (1) That, although Sheridan in his observations on 'accent' seems, in contrast to Steele, to share the popular but erroneous view of his day that English speech is monotonous, he did not, as we have hitherto been led to believe "neglect tone entirely."
- (2) That, in the section of his book dealing with 'emphasis' Sheridan /

Sheridan recognises the two main types of intonation -

(a) the international, universal melody expressive of the emotions.

(b) the specific, formal intonation which is characteristically different for each nation, province etc; but Sheridan calls this intonation a 'brogue' or 'dialect', condemns its 'artificiality' and denies its existence in 'polite' English speech.

The melody of 'polite' English speech is the universal melody expressive of the emotions.

(3) That some of Sheridan's observations coincide with those of Steele, namely Nos. 7, 8, 9 and 10 in the summary of Steele's work page 9.

(4) That, unlike Steele, Sheridan made no attempt to analyse intonation, nor to record it graphically.

(5) That Sheridan made some valuable observations concerning the teaching of intonation.

(6) That in his division of texts into speech-groups he anticipated 20th century phoneticians, his speech-groups being not 'stress-groups' but 'sense-groups.'

III.

John Walker's 'Melody of Speaking delineated, or
Elocution taught like music by visible signs.' 1787.

Sheridan, we saw, made no attempt to delineate speech-melody graphically, but in the 'Melody of Speaking' John Walker, best known as a grammarian and lexicographer, attempts to teach elocution "like music by visible signs - adapted to the tones, inflexions and variations of voice in reading and speaking."

In his 'Advertisement' the author addresses "those few who philosophize on language, and who look with a favourable eye on whatever promises improvement."

Walker claims "absolute novelty" for his method - it will, he says, "appear so new and unintelligible to the greater number of readers, that they will despair of comprehending it." His method is, however, by no means as "new" as he imagines it to be, and it falls far short of Steele's. Walker differentiates between 'speaking' sounds and 'singing' sounds, but he seems to be quite oblivious of the fact that in this and other points he had been anticipated by Steele, not to mention the Greek grammarians.

Besides the 'monotone' - 'a continuation or sameness of sound, like that produced by repeatedly striking a bell; it may be /

be louder or softer, but continues in exactly the same pitch' — Walker reduced the 'slides' of the voice to four — the rising inflection marked by the acute accent ' , the falling marked by the grave ` , and the two circumflex accents v and ^ . This system he found "perfect" and naïvely congratulated himself on the fact that "there was no possible slide of the voice which could not be reduced to one of these four." He does not know that many forms of circumflex accent had been already recognised by Steele,¹ and he is obviously unaware that there ^{are} ~~was~~ more than two forms. He owns, frankly enough, that "till lately, he had not a very clear conception of them," and "he despairs of conveying any idea of them to the public upon paper."

Walker's aim, as the sub-title of the pamphlet indicates, is elocutionary. He is more concerned with practice than theory, and makes one or two interesting observations with regard to the teaching of speech-melody. He seems to have been aware of the fact that some people cannot distinguish between a rising and a falling inflection, and the 'cure' he advocates gives evidence of a certain amount of ingenuity, though it is formulated somewhat obscurely.

"The best method of discovering the inflexion in any word will be to form it into a question with the disjunctive or: for, in /

1. Prosodia Rationalis. p. 85.

in the pronunciation of such a question, the voice necessarily adopts the rising inflexion on the first pronunciation of the word, and the falling on the last. Thus in the following sentence:

'A contented mind, and a good conscience will make a man happy in all conditions.'

If I want to know the falling inflexion I must adopt on the word mind marked with the grave accent, let me say, is it mind, or mind? And the last pronunciation of this word is that I must use in the sentence. If I would know the rising inflexion with which I must pronounce the word conscience, marked with the acute accent, let me say, is it conscience, or conscience? And the first of these is the rising inflexion I want."

This shows that Walker has realised that in two alternative questions the preceding alternative has a rising intonation and that there is a falling intonation at the end of the last question!¹ But, apparently, Walker accepted his own reading of the sentence - a contented mind and a good conscience - as the only correct one. He does not give alternative renderings; and the reason for the falling inflection on mind and the rising on conscience seems to be "rhetorical emphasis," for which he lays down hard and fast rules.

He /

1. Cf. D. Jones. Outlines of English Phonetics. Teubner Leipzig 1914 p. 150.

He notes too that the meaning of a sentence may often be entirely altered by changing the accent from acute to grave, and gives an example of how a compliment may be turned into a sarcasm by this means. Walker is right in pointing out that "if the pupil has a good reader constantly to imitate, he is undoubtedly possessed of the principal means of improvement," for the acquirement of a correct intonation is largely a matter of exact imitation of the teacher's performance.

Like Sheridan, Walker attempts to divide his texts ^{into speech-groups} but the division, as Walker makes it, falls far short of Sheridan's. Indeed it is useless and absurd as the following example shows:

The atrocious | crime | of being a young | man | which the
honourable | gentleman | has with such spirit | and decency |
charged upon me, | I shall neither | attempt | to palliate | nor
deny; |

Walker divides his sentences into what he calls "accentual portions" "the division of a sentence into such portions as are to be pronounced like one whole word, with the stress upon the proper syllable of that word." This, he thought, "cannot fail to be a guide both to the pause and emphasis."

Thus, on the whole, Walker's contribution to the study of speech-melody is slender. He did, it is true, recognise the value of a visual representation of the form of the sound before the /

the eyes of the speaker, - "whatever approximates to a notation of speaking sounds, must facilitate and improve the art of speaking and reading."¹ - but unfortunately his graphical method is not sufficiently comprehensive to be of any practical value.

Walker's chief merit lies in the fact

- (1) That he re-discovered some of Steele's teaching, and attempted to examine the varieties of intonation.
- (2) That he recognised the value of a graphical representation of speech-melody.
- (3) That he advocated "that the pupil should have a good reader constantly to imitate."

1. Melody of Speaking 'Advertisement' p. VI.

IV.

Notes on lesser Critics and Followers of
Steele.

Nares. Elements of Orthoepy, London 1784.

The Rev. Robert Nares made no original contribution to the study of speech-melody, but it is interesting to observe that he seems to have approved of Monboddo's treatment of 'accent',¹ and found Steele's system too obscure to be of general service, even if right. "I found myself utterly unable to follow the ingenious author through his wonderfully acute distinctions, though my ear is not wholly unpractised in the discrimination of musical effects." (Elements of Orthoepy, p. 145. Note)

Odell, an M.A. of Cambridge,² in an Essay on the Elements, Accents, and Prosody, of the English language - 1806 - adopts Steele's view and will not accept the theory that English speech is monotonous. Monotony in English speech creates "intolerable dissonance" (p. 121). Like Steele he regards 'accents' as tone-inflections (see description of these p. 80). A summary of Steele's doctrine is given (pp. 93 - 102), but, as Omond points out /³

1. op. chapter on Steele p.1.

2. This seems to be all that is known about him. cf. Omond op. cit. p. 122.

3. T.S. Omond, op. cit. p. 122 note.

out, Odell while adopting Steele's principles, criticises his practice; e.g. "I confess that some of the examples of accentuation specified in this book seem to have been incorrectly noted." (p. 101). Odell is certain that "prior to Steele's publication the real difference between speaking and singing was unknown to the generality of our modern professors of classical learning." (p. 96):

Rev. James Chapman, a teacher in Edinburgh,¹ author of the Music, or Melody and Rhythms of Language, (Edinburgh 1818,) and the Original Rhythmical Grammar of the English language, (1821,) tells us frankly in his introduction to the former volume 'that his system 'is taken from Mr Steele's Prosodia Rationalis', a work of great merit and ingenuity.' (Introduction p. Xiii.) Chapman, indeed, follows Steele's methods slavishly.

The only original contribution which Chapman makes to the study of speech-melody is to be found in his Rhythmical Grammar (1821) where he attempts to give a variety of examples of intonation and to formulate certain rules (p.222). These rules are often obscure e.g. "This sentence must be read with the rising inflection, where the sense begins to form" - Example -

To be ever active in laudable pursuits, is the distinguishing characteristic of a man of merit.

The /

1. Omond. Op. cit. p. 131.

The idea at the back of Chapman's mind was probably correct enough, viz:- that suspension of the sense requires a rising inflection, completion of the sense the falling.

He recognises that 'when words or clauses form an antithesis, the opposite parts must always have opposite inflexions.' (rule 5).

And in rule 7 he observes that 'questions formed with interrogative words have the falling inflexion' - ~~and the falling inflexion~~
~~example: the sign of the cross. This sign is the sign of the cross.~~

He also points out an exception to this rule - viz. 'when the question is repeated with passion and strong emphasis' the sentence has a rising inflection at the end.¹

Chapman recognises too that in reading a parenthesis "the voice ought to be lowered, the words pronounced somewhat quicker than the other parts of the sentence, and with the same inflexion at the end of it as is given to the clause immediately preceding it" (p. 229.)

To the rather long and involved examples illustrating the above rules Chapman adds a short sentence in which he indicates certain variations of intonation. viz.² - will you do so? will you do so? will you do so?
will you do so? ^{But he} Chapman does not seem to recognise more than these four variations, ~~and~~ does he attempt to discuss the meaning of these variations?

1. cf. Coleman's article Intonation & Emphasis. *Miscellanea Phonetica* 1914 and D. Jones. *Outline of English Phonetics* p. 149 s. 715

2. The acute accent indicates the rising inflexion; the grave the falling inflexion.

V.

James Rush's Study of Intonation.

1827.

James Rush's study of intonation as contained in his book - 'The Philosophy of the Human Voice'¹ - is probably the most elaborate treatise that exists on the subject.

Rush was an American physician, particularly interested in vocal physiology. In his Introduction he tells us he has consulted 'all accessible treatises' and found none satisfactory, but those of Steele, Sheridan and Walker valuable in parts. 'On a fair comparison' Rush finds that his own history of the voice 'represents its nature more extensively and definitely than any received system.' Further we are told² that 'as a study of intonation' Rush's book 'won the praise of no less a critic than the late A.J. Ellis' the phonetician.

It is with high hopes, therefore, that we approach the study of the chapters or 'sections' of Rush's book which deal with intonation. The headings of these sections promise much. We feel as though we stood on the threshold of a vast treasure-house

1. First Edition 1827; second edition 1833; third edition 1845. (Philadelphia). The references are to the third edition.

2. T.S. Omond, op. cit. p. 145.

full of amazing things! In eager haste we turn to the introductory section (59 seq.) where Rush gives a description of the 'radical and vanishing movement of the voice' as applied to the single syllable "a". It appears that this 'radical and vanishing movement' must be properly understood before we can proceed with the study of the 'melody of speech', and Rush describes the movement as follows:-

When the letter 'a', as heard in the word 'day'¹, is pronounced simply as an alphabetic element, without intensity or emotion, and as if it were a continuation, not a close of utterance, two sounds are heard continuously successive. The first element is 'a', the last 'e' (as heard in 'eve').

During the pronunciation, the voice rises by the concrete (i.e. sliding) movement through the interval of a tone or second; the beginning of the 'a' and the termination of the 'e' being severally the inferior and superior extremes of that tone.

The nature of this concrete rise might be represented by the symbol



But as a curvature of lines seemed to Rush to afford 'a more graceful analogy to the peculiar effect of this vocal concrete on the ear', he represented it throughout his work by the following /

1. Rush obviously gives the Southern English pronunciation.

following symbol:



He called the first part of the concrete, or that of 'a', the

Radical movement

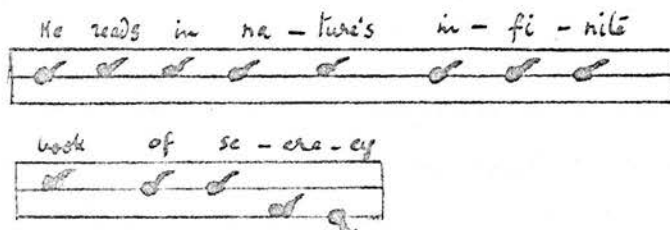
and the last part, or that of 'e', the

Vanishing movement

Hereupon Rush sets forth this theory of the Melody of Speech
(p. 124 seq.)

'As speech consists for the most part of a series of syllables on each syllable of which the concrete function of the voice instinctively occurs, it is necessary to consider the use and relationships of the radical and vanish, in their aggregate application to the successive syllables of discourse.'

Further, 'In plain narrative or description the concrete utterance of each syllable is made through the interval of a tone: and the successive concretes have a difference in the place of their pitch, relatively to each other. The appropriation of these concretes to syllables, and the manner in which the succession of their pitch is varied, are exemplified in the following notation': -



This /

This notation Rush explains in the following terms:-

'If these lines and the included spaces be supposed, each in proximate order, to denote the difference of a tone in pitch, the succession of the several radicals, with their issuing vanish, will show the places of the syllables of the superscribed sentence, in easy unimpassioned utterance.'

The perception of the effect of the succession here exemplified Rush calls the Melody of Speech.

The latter he divides into

- (1) the current melody
- (2) the melody of the Cadence.

The current melody, or 'that succession of rise and fall which is made on all the syllables of a sentence, except the three last,' exhibits the following phenomena:-

'In simple phraseology, which conveys no feeling or emphatic sentiment, every syllable consists of the upward radical and vanishing tone. The succession of these concrete tones is made with a variation of pitch, in which any two proximate concretes never differ from each other more than the interval of a tone.

The concrete rise of each syllable Rush terms the "Concrete Pitch of Melody" and the place that the beginning of each syllabic impulse assuming^{es} above or below that of the preceding, he calls /

calls the 'Radical pitch.' Thus in the foregoing example of notation, every one of the syllables has the concrete pitch of a tone, passing from line to space, or from space to line. The two composing the word nature, differ a tone from each other in their radical pitch, whilst that of the three syllables of infinite is the same.

However varied the successions of Radical pitch may be, Rush holds that its forms are all reducible to a limited number of aggregates of the concrete tones.

These he calls the 'Phrases of Melody'

- (1) When two or more syllables occur successively on the same place of radical pitch, it may be called the phrase of the Monotone.
- (2) When the radical pitch of a syllable is a tone above that of a preceding syllable, the phrase may be termed the Rising Ditone.
- (3) When the radical pitch of a syllable is a tone below that of a preceding syllable - the falling Ditone.
- (4) When the radicals of three syllables successively ascend a tone - the Rising Tritone.
- (5) When the radicals of three syllables successively descend a tone - the Falling Tritone.
- (6) When there is a train of three or more syllables alternately
a /

a tone above and below each other, it may be called an 'Alternation' or the Alternate phrase.

- (7) When three syllables successively descend in their radical pitch, at the close of a sentence, the phrase may be called the Triad of the Cadence.

Rush tells us he has not been able to discover that the melody of plain narrative or description is resolvable into more than these seven phrases.

Summing up this amazing chapter on the Melody of Speech we find:-

- (1) That in plain narrative or description every syllable consists of the upward radical and vanishing tone.
- (2) That the concrete utterance of each syllable is made through the interval of a tone.
- (3) That the melody of plain narrative or description is resolvable into seven distinct 'phrases'.

Upon examining the foregoing conclusions in the light of ~~our~~ present-day knowledge of intonation we find

- (1) That it is impossible to accept Rush's theory 'that in plain narrative or description every syllable consists of the upward radical and vanishing tone'; for what is this 'upward radical and vanishing tone' but the 'acute' accent, or the rising inflection, and common-sense alone tells us that 'every syllable' is not spoken with that inflection. Even /

Even in 'plain narrative or description' we have rising inflections, falling inflections, and many varieties of circumflex accents.

- (2) That if 'the concrete utterance of each syllable' were made through the interval of a tone, the result would be not speech, but an intolerable kind of singing. Rush has not realised that the intervals in speech are not definite musical intervals.
- (3) That the 'seven distinct phrases' into which Rush resolves the melody of plain narrative or description are arbitrary, and are based on at least two wrong assumptions, viz:-
- (a) that every syllable has the rising inflection
 - (b) that the 'concrete utterance of each syllable is made through the interval of a tone.'

Later (p. 202 seq.) Rush recognises that the rule of intonation laid down when speaking of the melody of simple narration, does not apply to the melody of interrogative sentences, 'for these employ more extended concrete intervals.' These intervals Rush terms the 'interval of the Octave, the interval of the Fifth and the interval of the Third.' In defining the terms he again makes the fundamental mistake of treating the intervals of speech as if they were definite musical intervals. For example - "by the term Octave when applied to speech, is meant the concrete rise of /

of the voice, from any assumed place through the superior parts of the scale, until it ends or vanishes in its eighth degree, or in the octave to that radical at which it began.' (p. 195).

Rush gives illustrations of the use of these intervals, but one example will suffice to show that a further and detailed investigation of the chapters of his book which deal with the intonation of interrogative sentences is unnecessary.

Rush chooses the following sentence:-

Give Brutus a statue with his ancestors
and shows how this imperative expression is changed to an interrogative expression 'from the use of the rising interval of the fifth on each of the syllables.' The interval is used 'either concretely or by a radical change on each syllable of the sentence.'

There is no need to comment on the monstrosity of intonation which the use of the rising interval of the fifth on each of the syllables would produce!

Nor would it serve any useful purpose to investigate further Rush's elaborate theories. The most that can be said for him is that he realised the importance of a scientific investigation of speech-melody.

In conclusion it is interesting to note that Rush himself informs us that 'very few' of the critics of his day have regarded /

regarded the book 'either with curiosity or favor'.¹ This he attributes to their 'want of understanding,' and proceeds to tell us naively what his critics say.

'One says it is a sealed book; another, that it might as well have been written in Hebrew. An eminent leader of opinion, on this side of the water says it is not worth reviewing; whilst on the other side, one of the very highest rank, in British periodical criticism, declares in the frank confession of an ineffable superiority, that 'it quite surpasses his comprehension.' One, not contented with his own ~~single~~ incompetency, takes me into his company, by saying, that I do not understand it myself: whilst to a high-placed medical professor the work appeared to be such palpable gibberish, that he recommended one of his friends to read it, as a fine example of the incoherent language of insanity.'

While the above criticisms seem to voice our own thoughts, we feel in addition a certain amount of regret that the vast store of material collected within the five hundred pages of Rush's book is of no practical value to the student of intonation.

1. Preface to 3rd edition p. XII.

VI.

ALEXANDER MELVILLE BELL'S contributions to the study of speech-melody as contained in the "Elocutionary Manual," (1859)¹, the "Standard Elocutionist," (1873)², and the "Essays and Postscripts on Elocution," (1886)³.

Alexander Melville Bell, the well-known professor of Elocution and vocal physiology, devotes some fifty pages of his "Elocutionary Manual" to the subject of speech-melody or inflexion. He does not discuss the work of his predecessors, but sets forth a theory of his own, and seems to be interested in the subject merely from the point of view of elocution. He recognises that there is an essential difference between the movements of the voice in speech and in song respectively (p.72) and defines this difference in much the same terms as Steele.⁴ Further, he remarks that the kind and degree of inflexion with which words are pronounced, are peculiarly expressive of their relation to the context, or to the feeling of the speaker. The "rising" inflexions are connective, referential, dubious, appellatory, or tender in expression; and the falling inflexions are disjunctive, independent, positive, mandatory, or harsh. These /

1. 3rd ed. London.

2. Belfast.

3. New York.

4. see page 3.

These vocal expressions constitute a "natural language, of the import of which mankind are intuitively conscious." "The language of tones is most perfectly developed when the feelings are excited, and the speaker is free from all restraint." Steele had already recognised this truth eighty years before, when he pointed out that the range of inflexion was greater in emotional than unemotional utterances.

Bell distinguishes between "simple" and "compound" inflexions, but his notations of these inflexions are vague and might well be understood to represent languages other than English.

The paragraph on what Bell calls "preparatory inflexions" (p. 77) is interesting, but is formulated somewhat obscurely in the "Elocutionary Manual." It will be discussed later when we deal with the "Essays and Postscripts on Elocution."

Like Sheridan, Bell advocated that the principles of intonation should be taught systematically, and lists of practical exercises (of the usual uninspiring, elocutionary type) are appended.

The aim of the Standard Elocutionist (1873) is, as the title implies, also elocutionary.

In a few pages (p. 13-40) the principles set forth in the Elocutionary Manual are summed up. A copious selection of extracts of prose and poetry (p. 41-500) for reading and recitation /

recitation follows. The rules on "inflexion" are summarised (p. 18-22), but nothing new seems to have been added, and no improvement in the graphical notation is evident.

In the "Essays and Postscripts on Elocution" (1886) Bell discusses the relation of tones to language (sec. VII, p. 41) and points out certain fundamental principles of vocal expression (p. 48). In addition to "rising" tones and "falling" tones he now recognises "mixed or undulating" tones which are "suggestive" or "inferential" of meaning, and "level" tones which are "reflective," or "suspensive" of meaning.

In section VIII (p. 53) Bell discusses an important vocal principle which seems to him to constitute the "Melody of Speech," namely, "that an inflexion, of whatever kind, is preceded by a tone which is high or low in opposition to the pitch of the inflexion." This principle, he points out, produces a rich variety of intonation, and, as the "preparatory" tone is itself inflected, the variety is further increased.

Bell rightly points out that language is dependent on tone for the sense in which it is to be understood, and at the end of Section VIII he draws attention to the semantic functions of intonation and gives examples of how the word "yes" may be intoned in five different ways implying different meanings.

It had occurred to none of Bell's predecessors to discuss the semantic functions of intonation, and in this respect Bell must /

must be considered a pioneer.

Summing up we find:

- (1) That Bell recognised the essential difference between the movement of the voice in speech and song.
- (2) That he was aware of the fact that the range of intonation is greater in emotional than unemotional utterances. (Steel had already pointed this out, see page 3 .).
- (3) That his notation of inflexions is vague.
- (4) That, like Sheridan, he advocated that the principles of intonation should be taught systematically.
- (5) That he was the first to draw attention to the semantic functions of intonation.

VII.

The sections on speech-melody in Carl Ludwig Merkel's
 "Physiologie der menschlichen Sprache," pp. 352-397.
 1866¹.

The sections on speech-melody in the "Physiologie der menschlichen Sprache by Dr Carl Ludwig Merkel² are interesting inasmuch as they attempt to throw light on certain psychological aspects of the study of speech-melody.

In Germany earlier attempts to investigate the problem of speech-melody seem to have been made in 1791 by Schocher in his dissertation "Soll die Rede auf immer ein dunkler Gesang bleiben, und können ihre Arten, Gänge und Beugungen nicht anschaulich gemacht und nach Art der Tonkunst gezeichnet werden? Aufgegeben und beantwortet von Chr. G. Schocher, Leipzig, 1791." A year later the anonymous author of the "Grundriss der körperlichen Beredtsamkeit" (Hamburg C.E. Bohn) attempted to delineate speech-melody graphically by means of musical notes. And in 1814 there appeared Hänle's "Praktische zum Theil auf Musik gegründete Anleitung zur Deklamation und zum mündlichen Vortrag" (Frankfurt a.M.) which included similar examples of speech-melody.

In /

1. pub. by O. Wigand, Leipzig.

2. ausserord. Professor der Medizin an der Universität Leipzig.

In 1853 Louis Köhler published his hundred-page tract "Die Melodie der Sprache in ihrer Anwendung besonders auf das Lied und die Oper." (J.J. Weber, Leipzig). But neither this pamphlet nor the earlier treatises seem to have advanced the study of speech-melody materially.

In discussing the nature of speech-melody Merkel's main object was to refute the theories of Louis Köhler, whose fundamental principle was: "that the melody of speech is the mother of all melody." The question as to which comes first in order of time - song or speech - is one that has always interested philosophers and psychologists, but an examination of the many divergent theories would be out of place here. The most important literature dealing with the question has, however, been indicated below.¹

Further, Merkel takes exception to Köhler's theory that a composer need merely follow the spoken melody of a lyric poem in order to produce his musical melody. This, Köhler alleges, is a Wagnerian principle. "Richard Wagner hat es wie kein zweiter verstanden, dies Prinzip durchzuführen." Of Wagner it has certainly been said: "aucun musicien, peut-être, n'a plus /

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1. Charles Darwin: The Descent of Man, ii, pp. 68-74.
 - H. Spencer: Essay on the Origin and Function of Music, 1891, vol. ii, p. 426 ff.
 - R. Wallaschek: Primitive Music, Lond. 1893, pp. 237-259.
 - O. Jespersen: Language, its Nature, Development and Origin, 1922, p. 433.
 - Wundt: Sprachgeschichte, Engelman, Leipzig, 1901, pp. 82-110 and Elemente der Völkerpsychologie, 1912.

plus que lui respecté dans sa mélodie la mélodie du langage."¹
 And we read that the composer Lulli "notait les intonations de
 la Champmeslé, pour en tirer ses mélodies."² But Merkel
 rightly points out that Köhler's theory goes too far, for "die
 Kunst der Deklamation wäre demnach mit der der Gesangskomposi-
 tion eins und dasselbe, jeder Deklamator wäre also ein geborener
 Komponist."

Köhler's mistake lay in the fact that he did not recognise
 the essential difference between melody in speech and melody in
 music. Merkel, on the other hand, carefully distinguished
 between the melody of speech and that of music. He defines
 "melody" as follows: "Unter Melodie versteht man meines Wissens
 eine zu einem einheitlichen Kunstgebilde gestaltete Folge von
 Tönen" (p.381). And it is interesting to note that a modern
 American psychologist has defined a "melody" in similar terms:
 "a succession of musical sounds which is felt to constitute an
 aesthetic unity."³ This musical melody is non-existent in
 speech. As Merkel points out: "Die Melodie fehlt in der
 menschlichen Rede, sie ist wirklich eine Neuschöpfung der musik-
 alischen Kunst"... (p.391). Other psychological questions
 such as the function of melody in music and speech are also dis-
 cussed by Merkel, but need not be dwelt upon here.

In /

1. Verrier, op. cit. p. 110.

2. Verrier, p. 111.

3. W. Van Dyke Bingham. Studies in Melody: Psychological
 Monographs vol. XII, 1909-11. Review Publishing Co.

In conclusion it is interesting to note that Merkel as well as his predecessors used musical notes to record the melody of speech graphically. It does not seem to have occurred to them, as it did to Joshua Steele several decades earlier, that sloping or curving lines might be used instead of musical notes to delineate the melody.

Summing up we find

- (1) That Merkel appears to be the first German writer who dealt comprehensively with the subject of speech-melody.
- (2) That his interest in speech-melody was mainly psychological.
- (3) That he was careful to distinguish between melody in music and melody in speech.
- (4) That he and his predecessors used musical notes to record speech-melody graphically.

VIII.

The Chapter on speech-melody in Sidney Lanier's 'Science
 of English Verse.'¹ 1880.

In his well known work on prosody the American professor, Sidney Lanier, devotes a chapter to what he calls 'the tunes of ordinary talk, or speech-melodies.' He is concerned mainly with the aesthetic aspect of speech-melody, and treats the whole subject in a 'popular' rather than scientific way. He evidently considers himself a pioneer. No reference is made to the work of his English predecessors, unless they are meant to be included in a casual sentence where Lanier deplores the fact that "no one has yet succeeded in devising a system of notation which could express even those crude forms of the speech-tune, which have from time to time caught the attention of this or that elocutionist or speculator as "intonations" or "inflections'." ². The musical system of notation, he considers, is "wholly inadequate to note a speech-tune," but he adds that "of course nothing could be easier than to devise a system i.e. a /

1. Scribner's New York. (Part II Chapter X).
 2. p. 272.

a musical system of notation which would be adequate to the scale of the speaking-voice." This, however, Lanier does not attempt, for he finds that "the difficulty in the construction of such a scale is that we have not yet ascertained with precision the power of the ear in exactly co-ordinating small intervals such as the third, fourth, etc. of a tone."

Lanier is careful to define what he means by speech-tunes or melodies. They are 'distinctly formulated patterns of tones varying in pitch,' and these melodies, he points out, exist 'not only in poetic readings, but in all the most common-place communications between man and man by means of words.' (p. 252.) Words indeed 'form the smaller element in language' (p. 261.) The greater part of expression is carried on by means of melodies rather than words (p. 259.) Such melodies are not 'mere accidents' but are 'absolutely essential elements in fixing the precise signification of words and phrases.' Further, 'these tunes not only affect the signification of different words, but they greatly modify the meaning of the same words, so that a phrase uttered according to one tune means one thing, according to another tune another thing.' (p. 252-3.) This is a fact on which twentieth century authorities on intonation never fail to lay stress, and Lanier deserves credit for discovering this truth independently /

independently.

Although Lanier seems to recognise the existence of a specific, formal melody in unemotional utterances,^{1.} he deals almost exclusively with speech-melody in so far as it is expressive of the emotions. It is, as we pointed out above, not the scientific but the aesthetic aspect of speech-melody that interests him.

He gives a brief historical outline of the relations of music to poetry in which he shows how the speech-tune art is the result of natural development, (p. 264.) He draws attention to the contrast between the crude approach to the speech-tune in the 'typical negro sermon,' and the delicacy of the cultivated, subtle speech-tunes in a sonnet of Michael Drayton's (p. 276-8.)

It is interesting to observe that Lanier advocates the 'conscious' study of speech-melody. "There can be no doubt that if the habit of consciously listening to the tunes of speech should become generally cultivated, an enormous increase of capacity in the general nicety of discrimination and in the understanding of these flitting melodies would result." (p.275.)

"At /

1. 'Every affirmation, every question has its own peculiar tune.'
p. 252.

"At first, the keenest ear finds it difficult to do consciously that which we all do unconsciously; but presently this difficulty will vanish, and the explorer will straightway discover a new world of tune." Lanier is convinced of the "endless capacity of the ear for cultivation in these matters." In thus advocating the 'conscious' study of speech melody, Lanier, probably unknown to himself, upheld the doctrine of his great English predecessors, Joshua Steele and Thomas Sheridan.

Finally, Lanier's illustrations are so interesting, apt and striking that they may be regarded as the most important part of his contribution to the study of intonation. They alone would entitle him to an honourable place among writers on speech-melody.

Summing up we find -

- (1). That Lanier's work is suggestive rather than scientific.
- (2). That he realises that 'melodies' modify the meaning of the same words, so that a phrase uttered according to one tune means one thing, according to another tune another thing.
- (3). That he insists on the training of the ear by 'conscious' listening /

listening to the tunes of speech.

- (4). That the most important feature of his contribution is the wealth, aptness and interest of the illustrations.

IX.

Fr. Wulff. Några ord om Aksent i allmänhet och om den moderna Franska aksentueringen i synnerhet¹ (in Forhandlingar paa det andet nordiske Filologmöde, Kristiania 1883).

A copy of the above treatise has not been available, but it has been reviewed by Storm² who says: "Diese treffliche Arbeit des schwedischen Forschers hat im ganzen unter neueren³ Fachmännern allgemeine Zustimmung gefunden und wird von Passy als die beste, die er über diese Frage kennt, erwähnt."

According to Storm, Wulff holds that the most important phenomenon of French "accent" (the word is not defined) is "die musikalische Betonung." As he was a good musician, Wulff attempted to delineate French speech-melody by means of musical notes, and Storm considers these representations "sehr gute Schemata."

In the light of modern research, however, the examples quoted by Storm appear to be not altogether accurate, We note, for instance, that in the "most common type" of French intonation recorded by Wulff the pitch of the unstressed syllables /

1. "A few words about accent in general and French accent in particular."

2. Englische Philologie, p. 188.

3. The well-known French phonetician.



syllables preceding the final stressed syllable of a tone-group is invariably level and they are spoken in what he calls the "mittelton." We know, however, that in a typical French melody the unstressed syllables preceding the final stressed syllable of a tone-group gradually ascend in pitch until the ante-penultimate syllable is reached. From this syllable there is an abrupt upward (or as the case may be) downward "jump" to the final stressed syllable.

It is interesting to note that this mistake of Wulff's is repeated by Pierson and by Storm¹ himself in his representation of the melody of French speech (p. 218) (*Englische Philologie*) Part I.

1. See page 60.

X.

F. Weber's article "on Melody in Speech" (from Longman's Magazine), in the Popular Science Monthly, New York, April 1887, pp. 778 - 788.

Weber's article has been well characterised by Storm¹ as: "Eine dilettantische Arbeit, die einige gute Bemerkungen enthält." "Der Verfasser scheint mehr Musiker als Sprachforscher zu sein, er hört musikalische Töne im Heulen des Windes, das sehr gut wiedergegeben ist, im Bellen der Hunde, im Schreien des Esels; auch in der Sprachmelodie vernimmt er wirkliche musik, daher dieselbe nicht gut dargestellt ist. Auf die gleittöne nimmt er fast keine Rücksicht, ausser wenn sie ebenso bemerkbar wie im Gesang sind."

It need only be added that among the records of the melody of conversational English Weber gives representations of melodies from a speech by an Oxford professor, and from a sermon by an English bishop, but, as the words are omitted, these delineations serve no useful purpose.

1. Eng. Philolog. p. 217.

XI

The paragraphs on intonation in Paul Passy's 'Sons du Français', 1887¹

Paul Passy, the famous French phonetician, broke new ground when he included a short section on 'intonation' in his 'Sons du Français'

He pointed out that the melody of French speech, when compared with the melody of English or German speech, has a more definitely musical element about it. The voice does not 'glide' from note to note. (p.71)

Passy seems to recognise the two main types of intonation — the formal, logical intonation of unemotional utterance, and the intonation expressive of the emotions. He is, however, more interested in the latter, and the examples he gives are mainly 'emotional' or 'emphatic' expressions.

His graphical representations — lines and angles — seem quite inadequate, and merely indicate the intonation in a very general way.^{2/}

1. First edition, Paris.
The references are Pars. 129-141 of the 3rd edition, 1906.
2. cf. The much better graphical representation in appendix A. p.155, 3rd edition.

way.

Further, Passy draws attention to the ⁿsemantic functions of intonation, and shows how the word 'oui' may be intoned in different ways, to indicate certain shades of meaning, and how an affirmation can be changed into an interrogation simply by the change of tone.

Finally Passy points out that in languages like Swedish, Norwegian, Chinese, etc. there are 'fixed' tones for certain words, and that it is by the tone alone that these words can be distinguished.

In an appendix Passy again broke new ground when with the assistance of Mlle. S. Lund and Professor Daniel Jones, he attempted to give a graphical representation of a prose passage from Labfiche's Grammar - by means of curved lines. This graphic method of representation is much more satisfactory than the lines and angles which Passy used in the earlier part of his work, and marks the beginning of new epoch in the graphical representation of intonation.

1. Appendix A. p. 155 3rd edition.

XII.

F. Beyer's chapter on speech-melody in the "Franzö-
 sische Phonetik." ¹ 1888.

The chapter on speech-melody in F. Beyer's "Französische Phonetik" contains much that is of practical value to the student of French speech-melody. Here for the first time we have a comprehensive selection of examples taken from the every-day speech of the Frenchman, and these examples appear to be typical. Of them the distinguished phonetician Jespersen says: "ich habe sämtliche hiergegebene Beispiele mit Passy (the famous French phonetician) durchgenommen und kann bestätigen, dass die Tonangaben mit der natürlichen französischen Sprechweise fast überall übereinstimmen."

In place of musical notes Beyer uses the rather vague symbol of a single sloping line to indicate the melody of a sentence. The symbol / indicates a rising intonation, and the symbol \ the falling.

Like Bell, Beyer realised that the same sentence is capable of being intoned in many different ways according to the meaning which the speaker wishes to convey.

Further, Beyer points out that in French speech Englishmen and /

1. Cöthen.

and Germans frequently mistake inflexion for strong stress, and this he attributes to the fact that in the germanic languages strong stress and inflexion often coincide. Beyer also suggests that the mistakes which the Englishman and German make in speaking French are due chiefly to the fact that the intonation systems of the romance and germanic languages are fundamentally different. Unfortunately Beyer does not enlarge upon this theme, nor does he attempt to compare the intonation systems.

Summing up we find:

- (1) That the aim of Beyer's book is practical.
- (2) That he gives a comprehensive selection of notations of French everyday speech.
- (3) That in place of musical notes Beyer uses ■ sloping lines to indicate the melody of a sentence.
- (4) That Beyer was aware of the fact that the intonation systems of the romance and germanic languages are fundamentally different.

XIII.

Johan Storm's "Exkurs über Sprachmelodie." (p. 205-221,
Part I of the "Englische Philologie," 1892).

In his "Exkurs über Sprachmelodie" Johan Storm, sometime Professor of Romance and English Philology at the University of Christiania, gives as it were a bird's eye view of the subject of speech-melody. Within the compass of sixteen pages he deals with the question of the relation of speech to song (p. 205-208), the tones of the Lithuanian language (p.208-210), the Serbian language (p. 210-212), Chinese tones (p. 212-214), and English speech-melody (p. 214-218). In addition he gives notations of French, Italian and Spanish speech-melody (p. 218-221).

Storm appears to be the first who conceived the plan of collecting and summarising existing material dealing with tone-phenomena. In his day he was regarded as an authority on this subject by his contemporaries, and it is interesting to find that his observations continue to be quoted in twentieth century works on intonation.

Storm begins by discussing the relation of speech to song (p. 205-208), but here we find nothing substantially new. He recognises the fact that speech has "etwas Melodisches," and points /

points out: "ein Jeder singt in seiner Rede mehr oder weniger.... dies bemerken wir gewöhnlich bei uns selbst nicht, aber wir merken gleich bei anderen Dialekten und Sprachen "den fremden Accent," und zwar besonders, wenn Fremde unsere Sprache sprechen." The latter is one of the favourite passages repeatedly quoted from Storm; but Joshua Steele, a century earlier, had already drawn attention to this fact,¹ and Storm's contemporary Pierson² in his *Métrique naturelle du langage* (1884) had said: "Tout accent différent de celui qui nous est habituel nous choque par son étrangeté, nous le considérons comme une faute, et il nous semble que les personnes qui en sont affectées chantent en parlant".... (p. 245).

In the following sections Storm deals with the "fixed" tones of the Lithuanian, Serbian and Chinese languages.

Then we come to perhaps the most interesting part of Storm's treatise, namely, that in which he attempts a comparative study of English, French and German intonation. He realises the difficulty of the task. "Das Verhältniß des englischen Tonfalls zu dem anderer Sprachen z.B. dem französischen oder deutschen ist sehr schwer zu charakterisieren." Therefore he restricts his remarks to a few non-committal, general descriptions of the different speech-melodies. For instance: "Das Englische ist im Gegensatz zum Französischen unmelodisch, es /

1. See page 2.

2. F. Wiewig, Paris..

es hat aber doch seine Melodie und seine Schönheit wenn es gut und natürlich gesprochen wird, so dass es "the true English ring" bekommt"....

Storm does not venture to discuss the difference between English and German speech-melody. "Ich getraue mir nicht zu, den Unterschied deutscher und englischer Sprachmelodie näher zu charakterisieren, obwohl ich ihn sehr wohl bemerke."

For his notations of speech-melody, Storm, like his predecessors Merkel, Wulff and Pierson, used musical notes. It is interesting to observe that in his notation of French speech-melody (p. 218) Storm makes the same mistake as Wulff and Pierson, i.e. he makes the pitch of the syllables preceding the final stressed syllable of a tone-group level.¹ We need only compare his notations with those of Professor Daniel Jones in the Outline of English Phonetics² to realise immediately how inadequate Storm's notations are.

On the whole Storm's work is suggestive rather than scientific.

1. Cf. Chapter IX, p.52.

2. Teubner, 1914.

XIV.

Henry Sweet's contribution to the study of intonation as contained in the New English Grammar,¹ (Part II Par. 1925-1952.) 1892.

In the few pages of his Grammar where he deals with the subject of intonation Professor Sweet does not attempt to propound new theories. He merely formulates, as concisely as possible, certain fundamental principles of intonation, and lays stress on the semantic functions of intonation rather than on the actual forms.

His graphical notation is quite inadequate. An acute accent to mark the rising tone, a grave accent to mark the falling tone, and the circumflex accents for the compound tones are the only symbols used.

The functions of these tones are set forth in a series of rules; examples are given in each case and exceptions noted,

To some extent Sweet anticipates the views of twentieth century authorities on intonation. For instance he distinguishes carefully /

L. Clarendon Press. Oxford.

carefully between the intonation of general interrogative sentences and special interrogative sentences, (i.e. sentences beginning with an interrogative word), and notes that the former have a rising, the latter a falling tone, but that special interrogative sentences have a rising tone when the question is a repeated one: e.g. What is his name?¹ Further he tries to account for the use of the rising tone in expressions such as 'well;' 'good-bye;' 'hope to see you again soon;' and suggests that this rising tone often serves merely to give a general character of cheerfulness or geniality to what is said. Later authorities on intonation, however, offer a different explanation of this use of the rising tone. They suggest, for instance, that it implies non-finality, an anticipation of more to follow.² Both these explanations seem adequate and might serve as answers to the problems on intonation set by H.O. Coleman in his pamphlet entitled 'Intonation and Emphasis' (Miscellanea Phonetica 1914.) p. 26, Pars. 74 and 75.

In dealing with the intonation of expressions of a parenthetical nature Sweet's views do not compare quite so favourably with /

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1. D. Jones Outline of English Phonetics, Teubner, Leipzig 1914. p. 149, Par. 715 and H.O. Coleman, Intonation and Emphasis p. 19.
 2. D. Jones op. cit. p. 152, Par. 717.

with those of his successors. He evidently does not realise that these expressions when not final, have a low level intonation, and when final take either a low level intonation or a rising intonation, according as the sentence without them would have had a falling or a rising intonation.^{1.} He does, it is true, recognise that enclitic additions to a complete rising tone sentence simply continue the rise, but nowhere does he mention the phenomenon of the low level intonation.

The remaining paragraphs contain observations regarding the 'compound rise' and 'compound fall.' These paragraphs, however, require amplification - a criticism which applies equally to Sweet's whole contribution to the study of intonation.

While he no doubt recognised the importance of the study, he nevertheless failed to work out a comprehensive and scientific theory of intonation.

1. D. Jones op. cit. p. 153, para. 721.

XV.

Viëtor's section on intonation in the 'Elemente der Phonetik'
1898.¹.

Sweet's German contemporary, the phonetician Wilhelm Viëtor of Marburg, devotes a few pages of his 'Elemente der Phonetik' to the subject of intonation.

He points out that ordinary speech offers considerable difficulties in so far as the exact analysis of its pitch-variations is concerned, and for this reason he places more faith in mechanical methods² of recording intonation than in the ear.

On one page (p. 293.) he gives a number of interesting examples typifying his own German intonation. For their graphic representation he uses musical notes, but draws attention to the fact that the musical intervals can be only approximately correct.

It should be noted, however, that his paragraph on German intonation might apply equally to English intonation. Indeed Viëtor /

1. First edition 1884. Leipzig.
The references are to p.p. 291 - 295 of the 4th edition 1898.
2. e.g. the kymograph.

Viëtor makes the following remarkable statement: "Der englische Tonfall stimmt im grossen und ganzen mit dem Deutschen überein." The reason for Viëtor's evident inability to recognise the characteristic differences between English and German intonation seems to be that he concentrated his attention mainly on the universal intonation of 'emphatic' or 'emotional' utterance.

French intonation he dismisses in a brief paragraph, and puts forward no new views. In a long foot note ^{1.} he refers to the work of Passy, ^{2.} Beyer, ^{3.} Storm, ^{4.} and Rousselot ^{5.} and appears to accept their theories without question.

Summing up we find that Viëtor did not advance the study of speech-melody to any considerable extent by original investigations. The main interest of his contribution lies in the fact that he advocates the exact analysis of the pitch variations in speech on the lines laid down by the experimental phoneticians i.e. by purely mechanical methods.

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1. p. 295.
 2. see chapter XI.
 3. " " XII.
 4. " " XIII
 5. see bibliography p. 135

XVI.

E.W. Scripture's 'Studies of Melody in English Speech' 1902¹.

With the work of E. W. Scripture, Professor of Experimental Phonetics in the University of Vienna, we enter upon an entirely new phase of the study of speech-melody. We saw in the previous chapter that Viëtor advocated the use of mechanical methods of recording intonation. Scripture's work proclaims him to be an ardent supporter of these experimental methods. Indeed, he emphasises the fact that the method of determining the melody by merely listening to phrases is "unreliable," and this for several reasons:

- (1) Because the speech sounds are generally so brief that the pitch can hardly be detected for a single one.
- (2) Because each speech sound comprises many tones and the ear gets a total impression of pitch that is usually different from the lowest tone.
- (3) Because the pitch of a vowel is nearly always continually changing and the ear fails to get more than a vague impression /

1. In Wundt's 'Philosophische Studien.' Bd.XIX p. 599 ff.
 See also Scripture's 'Elements of Experimental Phonetics,' New York, 1904,; 'Researches in experimental phonetics, the study of Speech curves,' Washington 1906; 'A Record of the Melody of the Lord's Prayer' Die Neueren Sprachen X, p. 513 ff. 1903.

impression of a sort of average pitch or of a succession of steps in pitch.

We see then that Scripture's aim is above all mathematical accuracy in the recording of speech-melody. He relies entirely on experimental records of the voice vibrations. He plots his speech curves from measurements, and considers any attempt to represent the melody of speech by musical notation "thoroughly misleading."

In his 'Studies of Melody in English Speech' Scripture draws attention to certain fundamental forms of intonation. It should be noted, however, that the 'English' recorded is actually 'American' English, therefore what is typical for the latter may not be equally typical for Southern English speech.

Scripture found the fundamental form of the declarative sentence to be regularly of circumflex pitch,¹ but it showed variations in the amount of change, in the position of the highest point, in the general height of pitch, etc. to express various modulations of thought. (p. 602).

In commands, questions, exclamations etc., the fundamental form was modified to a degree increasing with the departure from the declarative form. The following cases showed variations from the declarative form. In the record of the general interrogative sentence, /

1. i.e. the pitch rose during the first part and fell during the last.

sentence, "Did you see him?"; the curve of pitch rose from beginning to end with considerable steadiness. The amount of rise was considerably less than an octave, and it did not seem to coincide with any musical interval. The above example was contrasted with another general interrogative sentence: "Is he here?" which showed an even cord tone of moderately high pitch during the words "Is he," and a steady rise during the (i)¹ of "here" to a tone maintained throughout the (ə)² at the end.

Scripture points out that the first of the preceding cases indicates that the rise may be a gradual one from beginning to end, while the second indicates that it may consist in a change from a lower constant tone to a higher one through a more or less rapid glide (p. 603).

In the record of the special interrogative sentence: "Where is he?" there was a steady fall of pitch of exactly an octave between the beginning and the end.

In the sentence "Where did you see him?" Scripture found

- (1) a circumflex rise from the initial emphatic word,
- (2) a tone of almost constant pitch thereafter,
- (3) and a fall at the end.

In /

1. phonetic symbol.
2. do.

In later examples Scripture deals for the most part with the universal intonation expressive of the emotions.¹ He throws no light on the specific formal melody of English speech.

As regards German intonation he makes some interesting observations in the 'Researches in experimental phonetics.'² He found that the specific melodies for conversation differed greatly in various parts of Germany, but that the records of 'Der Fichtenbaum' spoken by thirteen persons from different parts of Germany showed just one type of melody. The explanation was that although the persons had grown up amid different dialects, they had been taught in School to use the one typical melody of standard German.³

Further, Scripture points out that a poet can thus expect that the entire cultured public will respond to the melody he feels that he is putting into his verse. The uncultured mass, however, may have different standards of melody - a factor that may be of influence in distinguishing a local from a national poet.

All these observations are of the greatest importance in so far /

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1. "We have in the melody of speech a partial record of the emotional expression of the speaker." (p.608)
 2. See note p.66
 3. i.e. that of Northern Germany. This question has been further elucidated by H. Klinghardt 'Sprechmelodie u. Sprechтакт' (p. 24 - 25.) see Chapter ~~XXX~~ of this thesis.

far as 'poetic' melody is concerned, and Scripture's theory along with those of Sievers,¹ Saran² and Rutz³ deserve to be closely investigated. They mark the beginning of a new era in poetic appreciation.

Summing up we find

- (1) That Scripture believes wholly in experimental methods.
- (2) That consequently he disparages methods of recording by the ear alone.
- (3) That his records are of 'American' English speech.
- (4) That he deals mostly with the universal intonation expressive of the emotions.
- (5) That he throws no light on the specific formal melody of English speech.
- (6) That he made some interesting observations regarding German intonation and what is known as 'poetic melody.'

1. See bibliography p. 126. and Chapter XXI.
 2. do. p. 125. do.
 3. do. p. 126. do.

XVII.

O. JESPERSEN'S CHAPTER ON 'TON' in the 'LEHRBUCH DER PHONETIK.' (pp.221-240). 1904.¹.

In his chapter on 'Ton' O. Jespersen, the distinguished Danish phonetician, deals with certain typical phenomena of speech-melody. He is particularly interested in the semantic function of intonation, and points out that we instinctively understand the 'meaning' of a tone. What then,² he asks are the laws which govern tones?

The first factor that 'influences' pitch appears to be 'stress'. "Strong stress" tends to attract "high pitch," but Jespersen warns the reader that very frequently a strongly stressed syllable has low pitch, an unstressed syllable high pitch.

The second factor which may be said to influence pitch is a certain 'liveliness of temperament' which finds expression /

1. Teubner, Leipzig.

2. By 'Ton' he means 'Tonhöhe' or pitch.

expression in 'livelier' movements of the cord tone, i.e. either a higher pitch level as a whole, or greater pitch variation, larger intervals.

To illustrate this point Jespersen contrasts the speech-melody of a lively child with that of a dull, stolid, unemotional individual. The melody of the former is high-pitched, varied; the melody of the latter is low-pitched, monotonous, slow. Thereafter Jespersen discusses certain pathological phenomena - the peculiar speech-melody of maniacs, etc.

The marked contrasts in speech-melody which are characteristic features of these pathological conditions occur on a smaller scale in the speech of normal people, so that it is often possible to recognise the mood of the speaker by his variations in pitch.^{1.} In illustration of the fact that the range of inflection is greater in emotional than unemotional utterances Jespersen quotes a well-known passage from Carlyle's 'Heroes,'^{2.} /

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1. Note 1 page 64 (Scripture.)
 2. See Jespersen p. 228.

'Heroes,' but Jespersen makes no mention of Joshua Steele who appears to have been the first to draw attention to the fact.^{1.}

Further Jespersen refers to Storm's remarks on intonation in the *Englische Philologie*^{2.} and accepts them without criticism of any kind.

The paragraph on what Jespersen calls the "Abschluss gesetz" is interesting, because it contains the germ of the two fundamental principles of intonation which govern the logical form of speech - namely that the falling intonation is conclusive, i.e. indicates the completion of a thought, while the rising intonation is expectant, anticipatory, i.e.^{3.} indicates uncompleted thought.

Thus Jespersen points out that an answer will generally have a falling tone, and the more abrupt the fall is, the more decisive will be the answer. To illustrate this point Jespersen contrasts the short, decisive 'yes' with the hesitating, /

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1. See page 6.
 2. See Chapter XIII
 3. See Chapter. XXVII.

hesitating, uncertain 'yes', and from this he passes on to other semantic functions of tones. (p.229-235.)

Jespersen uses Passy's inadequate system of angles [14] for his graphical representations and points out that a musical system of notation can be only approximately correct. He advises his readers to examine Scripture's curves obtained by kymographic tracings.

Jespersen tells us in conclusion that hitherto he has been dealing with tone merely as an element of 'expression,' and he forthwith proceeds to discuss the 'fixed' tones of Norwegian, Swedish and Chinese. These, however, do not concern us here.

On the whole Jespersen's contribution to the study of intonation is valuable and stimulating on account of the many accurate observations and the wealth of examples.

XVIII.

PROFESSOR DANIEL JONES' 'INTONATION CURVES.' 1909. 1.

Professor Daniel Jones's book - 'Intonation Curves' - marks a new epoch in the study of speech melody. Here for the first time we have a thoroughly scientific and practical treatise, "a collection of phonetic texts, in which intonation is marked throughout by means of curved lines on a musical stave." It is not so much the use of curved lines instead of the conventional musical symbols that is revolutionary, (for Joshua Steele and Passy too had used curved lines), as the fact that Professor Jones indicates exactly the parts of the curve and text which correspond, and thus combines scientific accuracy with practical utility.

The method used by Professor Jones is fully described in his introduction. It need only be mentioned here that it consists /

1. Teubner, Leipzig.

consists in lifting the sound-box of a gramophone at certain points during the passage of a record and retaining by the ear the sound impression immediately preceding the pause and analysing this impression by comparison with a standard source of sound, e.g. a tuning fork. The sound-box is lifted at as many points in the record as is thought necessary for an accurate analysis. The pitches observed are recorded on a system of musical staves. The single points thus obtained are then joined by lines and thus curves of intonation are obtained.

Three languages are represented - English, French and German, and the pronunciation is "that which may be taken to be the standard pronunciation of each language, viz; the average pronunciation of educated inhabitants of the south of England, the North of France and the North of Germany, respectively."

The /

The texts chosen are poetical passages and conversation (except in the case of German where no conversational passage is included.) The graphical representation of the melody is so clear that the marked contrast between the poetical and conversational passages is immediately realised.

It is interesting to know that a few years after the appearance of Professor Jones's book, the experimental phonetician Mr. W.E. Peters of Leipzig, with Meyer's ^{1.} Kurvenmessapparat analysed one of the records used by Professor Jones and had to admit that the average value of Professor Jones's curves would be found to be practically the same as that of the curves obtained by tracings with Meyer's apparatus. ^{2.} This is a striking testimony to the accuracy of Professor Jones's 'Intonation Curves.'

1. The passage from 'Richard the Second' Act 3. Sc.II.

2. See W.E. Peters 'A Note on some Intonation Curves.'
Vox. 1914, Heft 1.

XIX.

The Chapter on Intonation in Paul Verrier's Essai sur
les Principes de la Métrique Anglaise (Chapter V.) 1909^{1.}

Verrier treats the subject of intonation mainly from the point of view of the prosodist, and the chapter he devotes to it consists of only some twenty-five pages, while the whole work extends to nearly three hundred and fifty. In section A. p. 88 Verrier gives his definition of intonation and points out - what Joshua Steele² and Storm³ had already pointed out - that "Nous chantons tous plus ou moins en parlant - beaucoup, par exemple, en français. Nous ne nous en rendons pas compte, parce que la mélodie de notre langue est pour nous toute naturelle.... Ce que nous remarquons, ce sont les infractions à cette mélodie que commettent certains provinciaux et la plupart des étrangers. Nous trouvons qu'ils chantent, parce qu'ils chantent autrement que nous."

Thereafter Verrier proceeds to distinguish between the 'melody' /

1. Welter. Paris.

2. See page 2.

3. See page 59.

'melody' of speech and the 'melody' of song. In this connection he refers to the work of Lermoyez¹ and Aristoxenus.² In comparing French and English speech from the point of view of 'melody' Verrier draws attention to the fact that 'En français, on se rapproche beaucoup du chant: les intervalles sont marqués, à tous les égards et la hauteur de chaque son reste assez uniforme.' It is the contrary in English. Verrier differentiates between 'l'intonation expressive, and l'intonation grammaticale,' and deals first with the latter. He begins by defining the term 'hauteur' and points out that 'la hauteur, est proportionnelle à la fréquence des vibrations sonores.' In the following paragraph the question of 'accent and intonation' is treated, and there are numerous references to the work of the experimental phoneticians.

When he treats of the 'Formes de l'intonation' it is evident that Verrier is not quite sure of his ground. We read, for instance, 'L'intonation est si instable en anglais qu'il est difficile d'en préciser les formes.' (§ 125) and 'Il /

1. see bibliography p. 132
 2. do. p. 129

'Il est assez difficile de déterminer quelles sont les formes d'intonation que présentent ordinairement les syllabes et les mots de la langue anglaise, où la hauteur varie tant et par degrés en général si peu sensibles.'
(§ 126.)

The paragraph on 'Cadences' is interesting. Verrier points out that 'sentence intonation' plays an important part grammatically, largely on account of the different forms, in which the sentence ends - that is to say its cadences.

Verrier takes the three sentences,

1. He's come to-day.
2. He's come to-day?
3. He's come to-day by train.

and points out that by the intonation **alone** can we tell that the first sentence is an affirmation, the second a question, the third (as far as 'day'.) suspensive (incomplete.)

Verrier discusses the three types of cadence in detail, and then proceeds to investigate 'le ton et le mode', but this aspect of speech-melody does not concern us here.

In /

In the section dealing with the 'intonation expressive' Verrier aptly quotes "c'est le ton qui fait la chanson," and points out the various ways in which the word 'yes' can be intoned according to the meaning. (pp. 103-105.)

In discussing national and individual differences of intonation Verrier points out that the subtle inflections of a foreign language generally escape us, and that, on the other hand, we are inclined to find the intonations of the foreigner speaking our language suspicious if not ridiculous. But, generally speaking, 'les vrais cris du coeur ont partout la même intonation'

With regard to individual differences of intonation Verrier shows that they may be due (1) to the length of the vocal cords, (2) to the degree of liveliness of temperament'.

One need only compare the south with the north in this respect, or a child and an adult.

Another section deals with certain physiological aspects of emotion in their relation to speech-melody. A lively emotion produces higher pitch and greater variations, whereas discouragement, sadness, shame "font baisser le ton," and lessen the pitch variations.

The /

The last part of Verrier's chapter deals with 'melody' in song and poetry. He considers that 'la poésie est née du chant ou plutôt avec lui, en lui, et elle ne s'en est séparée que sur le tard.'

Poetry occupies a place mid-way between song and prose. Its function with regard to intonation is that it 'simplifies' it, 'regularises' it. Its intervals are 'less numerous', 'more marked' and more 'harmonious'.

XX

H. Klinghardt and de Fourmestraux's 'Französische Intonations-übungen'. 1911.1.

Professor Klinghardt and M. de Fourmestraux's book 'Französische Intonationsübungen', like Professor Daniel Jones's 'Intonation Curves', marks a new stage in the study of speech-melody. The book deals for the most part with French intonation, but there are a few references to German intonation, as one of Klinghardt's main aims is to show the German student how fundamentally different his intonation system is from the French system.

The exercises are eminently practical, but the theoretical aspect is not neglected, for the Introduction and Notes deal fully with the theory of the subject.

Professor Klinghardt records the typical inflections of the average Frenchman. He not only observed but picked out and systematised these inflections so that in a sense he gives us a 'conventionalised' intonation.

In /

1. O. Schulze. Cöthen.
English edition: Heffer. Cambridge. 1923.

In the Introduction certain general characteristics of French speech are dealt with, e.g. stress, quantity, articulation. Then a few paragraphs are devoted to the problems of 'international' intonation and 'national' intonation and Klinghardt discusses the difficulty of combining them. The fundamental principles of French intonation are dealt with next and the rules are summarised at the end of the section. (Par.17 p.16 of the English edition)

There is a chapter specially devoted to the teaching of French intonation, and in the appendices the treatment of final tone-groups, emphatic intonation in conversation, and the intonation of certain verbal forms are studied.

The purpose of the book is from first to last educational, and the author's chief aim has been to enable teachers and pupils to intone - at first consciously, but later quite unconsciously - any passage of French prose or verse in such a manner that a native would recognise it as being typically French.

The method of notation too marks an advance in the graphical representation of intonation. Instead of musical notes and curved lines Klinghardt uses dots, which represent syllables. An explanation of the symbols will be found on p. 19 of the English edition.¹ /

¹ See page 108, Chapter XXIX.

edition.

Professor Klinghardt has pointed out that the aim of the 'French Intonation Exercises' is fundamentally different from that of Professor Daniel Jones's 'Intonation Curves', yet the student might profitably combine the study of both. With the help of the former he could discover the typical French inflections in the 'Intonation Curves' and at the same time study in the latter the manifold individual variations of speech-melody.

XXI.

A Note on certain modern theories of Speech-melody.

-
- Rutz: Musik, Wort und Körper. 1911.^{1.}
 Sievers: Rhythmisch - melodische studien. 1912.^{2.}
 Saran: Deutsche Verslehre 1907.^{3.}
 Peters: Der Einfluss der Sievers'schen Signale und
 Bewegungen auf die Sprachmelodie. 1918.^{4.}
 Krueger: Mitbewegungen beim Singen, Sprechen und Hören.
 1910.^{5.}
-

Modern theories of speech-melody as contained in the above works hardly come within our province, as they are concerned for the most part with what has been termed 'poetic melody'. They open up wide vistas for the psychologist, philologist and physiologist. The methods are scientific, the ends aesthetic.

Sievers's theory of a personal melody of speech, which he has applied to textual criticism, is closely connected with Rutz's theory /

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1. See bibliography
 2. do.
 3. do.
 4. do.
 5. do.

theory of types (Typenlehre) and his theory of the relation of pose to singing and to the speaking of verse.

Krueger in his pamphlet sums up the main arguments of the Rutz theory.

Saran's investigations on German metrics give evidence that he is of the same mind as Rutz and Sievers.

W.E. Peters has examined in detail one of Sievers's theories concerning the effect of certain 'Signale' and 'Bewegungen' on the speech-melody of a number of 'Versuchs-personen' who were required to recite (under given conditions) the first verse of Schiller's poem "Der Graf von Habsburg". The results of this experiment will be found on page 566 of Peters's book. To me they do not seem to justify the labour of the experiment.

XXII.

Über Sprachmelodie und den heutigen stand der Forschungen auf diesem Gebiete.

By G. Panconcelli - Calzia, 1912.^{1.}

In the above article the experimental phonetician Calzia, of Hamburg, states that pitch phenomena do not impress us Europeans to any great extent, because in our language pitch does not play the important rôle which it does in some African languages. We treat it as a "quantité négligeable". All we can do is to indicate approximately the trend of the pitches. According to Calzia it is absolutely necessary that in order to determine "musical pitch" scientifically one should have recourse to the methods of experimental phonetics. Experimental phoneticians regard phonetic phenomena from two standpoints: viz., the psychological and the physical. In his article Calzia has confined himself to the physical standpoint.

He discusses how the speech-melody of certain African languages can be investigated by means of the Lioretgraph and Meyer's /

1. Vortrag, gehalten auf dem XV. neuphilologenkongress zu Frankfurt a. M.

Meyer's Kurvenmessapparat, and makes some interesting remarks on the 'wurzelton' and 'satzton' characteristic of these languages.

In conclusion Calzia indicates that much remains to be done in the scientific investigation of pitch phenomena, and that the African languages lend themselves most advantageously for the purpose, on account of the variety of intonation to be found in them.

Calzia in spite of the title of his article makes no attempt to tell us anything about the intonation of European languages, nor does he mention what has been accomplished by others in this field of 'tonetic' research.

XXIII

The Chapter on "Accent Musical" in Nyrop's 'Manuel phonétique du français parlé.' 1914.¹

(pp.116-122)

Nyrop's chapter on speech-melody deals in a general way with certain tone phenomena. He seems to be familiar with the views of his predecessors, and his statements contain little that is new - "All speech is a kind of song" - "force of habit prevents our recognising the melody inherent in our native tongue" (p.144) - "What distinguishes song from speech? (p.145) in answer to which Nyrop quotes storm (Norvegia, I, 52). In p.146 Nyrop discusses the function of the 'accent musical' in the spoken language, and says aptly with Verrier - but in other words - 'c'est le ton qui fait la chanson'. A little later we find the amazing statements that "on ne peut acquérir l'accent musical du français qu'en l'étudiant en France même. Donner des règles en cette matière est chose à peu près impossible"....

Yet /

1. Picard, Paris.

Yet the "impossible" had been accomplished by Nyrop's contemporary - Professor Klinghardt, in his "Französische Intonationsübungen."^{1.}

Thereafter Nyrop discusses the function of the 'rising tone' and the 'falling tone' and cites the musical notation of a phrase from Gil Blas recorded by the phonetician Pierson.² This notation, however, is not typical of French intonation.

On the whole Nyrop's chapter on speech-melody appears to be negligible.

1. See p. 83.

2. See p. 52.

XXIV.

The sections on intonation in Professor Daniel Jones's 'Outlines of English Phonetics' (pp.135-182) 1914.¹

The pioneer work done by Professor Jones in the field of 'tonetic' research has already been discussed in Chapter XVIII. The above contribution marks yet another important advance in the study of speech-melody. After the comparative 'barrenness' of Nyrop's chapter, Professor Jones's contribution is stimulating reading. Not only does he provide a wealth of 'tonetic' material, but he also systematises it.²

Two systems of graphical representation are used concurrently throughout viz: (1) Curved lines and (2) musical notes (giving an approximate musical notation.)

By means of contrasting examples Professor Jones shows how important intonation is for indicating shades of meaning.

He lays down the most important rules of intonation in normal Southern English and notes the exceptional cases. Sweet had attempted /

1. Teubner, Leipzig.
2. Professor Jones has told me that he hopes to rewrite this chapter on intonation, simplifying it to some extent.

attempted to do something of the kind but he gave us merely the shadow. Professor Jones gives us the substance.

These rules and the various exceptions are contained in paragraphs 699-741.

A very valuable addition is the section headed 'Incorrect forms of intonation heard from foreigners'. Here for the first time we get an inkling of the difficulties that foreigners, and incidentally we ourselves, have to contend with in the oral study of a foreign language.

In the chapter on the kymograph the most accurate methods of obtaining intonation curves are described. Illustrative records of tracings are subjoined, and it is shown how intonation may be minutely analysed by calculating the frequency of vibrations on kymographic tracings. (pp.179-182)

In conclusion it should be noted that Professor Jones's contribution to the study of intonation in the 'Outlines of English Phonetics' forms the basis for later and more elaborate treatises on English intonation.^{1.}

1. e.g. Klinghardt's "Übungen im englischen Tonfall."

The Importance of Intonation in the Pronunciation of
Foreign Languages - An article by Professor Jones. 1914¹ .

In the above article Professor Jones makes an eminently practical contribution to the teaching of speech - melody.

He points out that the practical acquisition of the intonation of a foreign language is not necessarily difficult for "there are some broad principles of intonation governing the more important languages," and all we need do in practical work is "to observe the principal points in which the foreign intonation differs from that of the Mother-tongue."

In comparing French intonation with English intonation Professor Jones indicates several noteworthy features of French intonation and shows how these are distorted by the Englishman. Professor Jones points out that this distortion is not due as is often thought to wrong 'stress', but to wrong 'pitch.'

Further examples are given illustrating the fundamental principles of French intonation.

Thereafter /

1. Modern Language Teaching Vol. 10. No. 7. Nov. 1914.

45.

Thereafter certain differences between German intonation and English intonation are discussed and light is thrown on hitherto unsolved problems.

The English student is warned against using the 'compound rise' intonation in a foreign language, and he is told that he must remember 'that habits of intonation are not the same over the whole British Isles,' and 'the mistakes of intonation which a Scotsman is apt to make in French are not the same as those heard from Southern English people.' An example is given of the difference between a Scotsman's intonation and that of a man from the South of England.

In conclusion Professor Jones points out that talking machines play an important part in the study of intonation.

On the whole this little article contains more useful and exact information than the treatises of ^{some of} the 'experimental' phoneticians.' *referred to in previous chapters.*

XXVI.

H.O. Coleman's pamphlet 'Intonation and Emphasis' 1914.¹

H.O. Coleman's pamphlet 'Intonation and Emphasis' investigates (1) what is meant by the term 'emphasis', and (2) what the means are by which in spoken language the emphatic intention is indicated.

To indicate 'emphasis' in the examples he gives, Coleman adopts the ingenious device of capitals to indicate 'stress', and figures (1-9) to denote 'intonation'. The notation, he explains is purely relative.

Coleman distinguishes two kinds of 'emphasis': (1) the emphasis of prominence, and (2) the emphasis of intensity.

The first "marks any word or phrase as of greater importance than its neighbours," and the second "imparts an added degree of intensity to some part of the idea represented by a word."² (p. 9)

Coleman /

1. Miscellanea Phonetica.

2. i.e. it adds to the meaning of the emphatic word.

Coleman then attempts to determine the process by which emphasis is indicated in speech, and he deals first with the emphasis of prominence.

Here Coleman's article breaks new ground and "ventures opinions distinctly at variance with those generally accepted hitherto" (p.11). He brings out the paramount importance of intonation in certain cases as distinguished from mere stress, and states that "for the suggestion of Prominence intonation appears to be practically the sole instrument." (p. 14.)

On the other hand Intensity may be expressed by various means, e.g. an exaggeration of the prominence - giving intonation, special stress, extra slowness, extra quickness, etc. Coleman evolves a new principle which shows that either kind of emphasis may be added to the other. As Prominence may be intensified, so may Intensity be given prominence. (p. 18).

Coleman gives a few examples disproving the popular notion that rising intonation is the special mark of a question.

In §§ 53-66 Coleman proceeds to the analysis of the chief varieties of intonation, sketching general rules for the more general cases.

The /

The last part of Coleman's treatise deals with certain 'problems' of intonation for which he suggests solutions.

Summing up, we find that Coleman has given us much valuable 'tonetic' material and that his contribution has helped to advance the study of intonation in the ~~the~~ twentieth century.

XXVII.

H. Klinghardt's ¹Übungen im englischen Tonfall 1920.

We saw that Professor Klinghardt's aim in his previous work 'Französische Intonations - Übungen' was above all practical and educational. The same might be said of his 'Übungen im englischen Tonfall.' Here too he has a definite object in view, namely that of teaching the German student how to intone correctly when reading English texts of a narrative or descriptive nature. Another similarity between this work and his previous one is that Klinghardt has observed, picked out and systematised the typical inflections of English speech and has thus given us once more ^a'conventionalised' intonation.'

Klinghardt's book has been reviewed in detail by Daniel Elfstrand in an article 'On English Intonation' in Moderna Språk (Årg XVII 2 - 4 Malmö, April 1923.), it will therefore be sufficient for the purposes of the present survey if the salient /

1. Cöthen.

salient points from this review are noted.

1. The recognition by Klinghardt of the two forms of speech - the 'logical' and the 'emotional.'
2. His belief that a foreign language can be taught systematically with the help of formulated rules.
3. But Klinghardt points out that if this is to be done the 'logical' form of speech must be distinguished from the 'emotional.'
4. The 'logical' form is governed by two fundamental principles, viz: the falling intonation is conclusive (abschliessend) the rising, anticipatory (weiterweisend).
5. These two principles are common to all peoples, but in the manner of applying these principles each language has followed its own course, which was not investigated by earlier phoneticians.
6. Klinghardt has shown how the sure grasp of the intonation of a language involves the recognition of its intonation group, (intonatorische gruppe) as speech-group. It is a musical phenomenon, not an expiratory one.
7. Klinghardt's system of notation is, as in his previous work, the dot notation, i.e. dotted lines showing by their height and direction the tone inflection, big black dots indicating stressed syllables, smaller dots unstressed ones, and a small hook or tail attached to the dot of the last stressed syllable of a group, showing by its direction the upward or downward glide of the voice.

In texts more or less connected he has recourse to other graphical /

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1. Professor Klinghardt now prefers the term 'formal.'

graphical devices.

8. Klinghardt has established the fact¹ that intonation speech-groups are sense - groups.
9. In accordance with Professor Jones, Klinghardt lays down the general rule that in the English sense - group the inflection takes a falling direction from the high pitch of the first stressed syllable of the group down to the low pitch of its last stressed syllable. These two points represent normally the highest and lowest tones of the group.
10. According to the behaviour of the final low tone, however, there are two kinds of groups, those whose strong - stressed low-pitch syllable takes an upward glide of the voice indicating uncompleted thought, and those in which the same syllable takes a downward glide, indicating completed thought.
11. Klinghardt terms the former 'falling - rising groups, the latter falling groups.
12. The speech-group proper may be preceded and followed by unstressed syllables, in the former case called 'aufтакт,' in the latter 'abtakt'.

As in the case of the "Französische Intonationsübungen," the theoretical chapters are followed by copious practical examples.

Klinghardt's book is an important contribution to the systematic study of English intonation. It proves that intonation can be taught.

1. Not stress groups.

XXVIII.

H.E. Palmer's 'English Intonation with Systematic Exercises.'
¹
 1922.

H.E. Palmer's 'English Intonation' is, like that of Professor Klinghardt, primarily a text-book for the use of foreign students of spoken English.

In his preface Mr. Palmer acknowledges his indebtedness to Mr. H.O. Coleman's 'Intonation and Emphasis'² and Professor Daniel Jones's 'Intonation Curves' and 'Outline of English Phonetics,'³ and "in certain aspects," to Mr. H. Klinghardt." It seems curious that Mr. Palmer does not even mention the most comprehensive treatise on English Intonation published just two years before his own book, namely, Klinghardt's 'Übungen im Englischen Tonfall'. It would have been of considerable interest to the student of intonation to know what Mr. Palmer thought of Klinghardt's system compared with his own, especially since he acknowledges his indebtedness "in certain aspects" to Professor Klinghardt.

The object of Mr. Palmer's book is fourfold:

1. /

1. Heffer. Cambridge.
 2 and 3 op. cit.

1. To place on record a characteristic collection of the tones and tone compounds as observed in the speech of most Southern English people in ordinary conversation.
2. To suggest a scheme of classification and terminology by which these tones and tone-compounds may be divided into classes according to their degree of resemblance or difference.
3. To formulate in a series of laws or rules the facts which have so far been discovered concerning the relation between tones and meanings,
4. To set forth a simple yet adequate system of tonetic notation, in order that tonetic texts may be produced inexpensively and abundantly for the use of teachers and students.

Let us see what Mr. Palmer has accomplished.

The title of Mr. Palmer's book appears to be too comprehensive, for he has studied not "English intonation" in general, but, as he tells us himself the intonation of ordinary Southern English conversation. In this connection he has, however, placed on record a most remarkable series of significative tones, and has done full justice to the spoken language. Professor Klinghardt by means of his 'conventionalised' intonation produced a general impression of monotony; Mr. Palmer has given us a rich and pleasing variety.

variety. From the pedagogical point of view both systems are excellent, but with Mr. Palmer's system oral practice with a native teacher seems indispensable. Mr. Palmer does not define his symbols clearly enough, and the foreign student without the help of a native teacher would probably find it extremely difficult to produce correctly the tones represented by the symbols. Mr. Palmer seems to have realised this, for in addition to his new 'tonetic' notation, he uses Klinghardt's dot notation. It should be noted that this system of dot notation can be adopted with equally good results in recording the intonation of English, French and German, whereas Mr. Palmer's own notation appears to be applicable only to ^{Southern} English.

Like Klinghardt, Mr. Palmer, starts from the speech-group as the necessary basis of the study of intonation. He uses the term "tone-group" and at first sight there seems to be little difference between Palmer's "tone-group" and Klinghardt's "intonation sense-group." ^{Very soon however it becomes apparent that} ~~Palmer's tone-group is a word or series of words in connected speech containing one and only one maximum of prominence.~~ ^{Palmer views the problem from a totally different standpoint:} Palmer defines a "tone-group" as "a word or series of words in connected speech containing one and only one maximum of prominence." All Palmer's examples certainly seem to prove this;¹ but what of sentences like the following?

'Father /

¹ most of them are sentences with emphasis on a particular word.

'Father and 'Henry are at 'home. 'Charles or 'Bertha will
 'tell you. In each of these sentences there are three
 maxima of prominence and therefore, according to Palmer, as
 many tone-groups! Why should a tone-group contain "one and
only one" maximum of prominence? Why can it not, like
 Klinghardt's "sense-group" contain two or three maxima of
 prominence? Why should a sentence like " 'Father and 'Henry
 are at 'home" be said to contain three tone-groups, when
 (except for Mr. Palmer's definition) it might surely be con-
 sidered one tone-group? *The answer to that is that Palmer does not classify according*
~~to sense but according to tone, according to the nature of the~~
~~tone-group. According to Palmer a tone-group contains a 'nucleus'~~
 which is "the stressed syllable of the most prominent word in
 the tone-group." Palmer states that this conception of
nucleus (along with that of "head" and "tail") is his own.
 It is interesting therefore to note that the phonetician
 A.J. Ellis in his pamphlet 'Speech in Song' (1877)¹ has
 anticipated Palmer's usage, for he writes: "In real speech
 we gather syllables into groups these groups are more
 or less determined by some principal syllable which forms the
nucleus round which the others are arranged." "This pre-
 eminence of one syllable over the rest, is effected in several
 ways - principally by 'length' by 'pitch' and by 'force'." *Speech in Song*
 (Section XV. /

1. Novello, Ewer and Co. London.

XV. Words, accent and emphasis.)

In Southern English speech Palmer distinguishes four characteristic "nucleus tones," namely (1) the falling, (2) the high-rising, (3) the falling-rising, (4) and the low-rising, and accordingly there are also four kinds of tone-groups. The terms "falling" and "rising" are, of course, relative, not absolute. Besides the 'nucleus' Palmer shows the important part played in the tone-group by the 'head', the syllable or syllables preceding the 'nucleus', and the 'tail', the syllable or syllables following the nucleus.

Palmer's description of the action of the 'tail' agrees to all intents and purposes with Klinghardt's description of the action of the 'abtakt.' In Palmer's description of the 'superior head' we also recognise Klinghardt's 'sense-group' with its falling away of the voice from the high pitch level to the low pitch level.

Thus far, i.e. in the first two thirds of his book, Palmer has considered ^{Southern} English intonation mainly from the point of view of form, and the student has had to work through thousands of examples /

examples of tonetic phenomena without being told what they mean. In section X, however, Palmer discusses the semantic functions of the tone-groups, and he frankly confesses that 'the more serious difficulty is the teaching of the semantic values of the tone-groups.' (p. 6.) The method ^{used} by Palmer to solve this problem is "to take tone-group after tone-group, test them in connection with the various 'heads' and then establish their meanings." It is questionable whether this is the most practical method. The student to begin with would probably be concerned not so much with the peculiar tonetic forms of the foreign language, but with meanings. He would want to know what intonation should be used to express a statement, (complete or incomplete) a question, a command, etc.

Nevertheless Palmer's book is a serious and valuable contribution to the literature of the subject. He has shown that to teach foreigners to pronounce English without teaching them to intone it is an unbalanced procedure ¹. It is evident that future contributions to the study of intonation cannot afford to ignore Mr. Palmer's treatise.

1. English Intonation. p. VI.

XXIX.

A Note on 'French Intonation Exercises' the English translation by the present writer of Klinghardt and de Fourmestraux's "Französische Intonationsübungen". 1923.

This translation of the "Französische Intonationsübungen" was undertaken by me in response to the requests of certain teachers of French to whom Professor Klinghardt's method had been demonstrated.

It differs from the German work in that it is specially adapted to the needs of English teachers of French. It contains many references to the fundamental differences between English and French intonation, and suitable English parallels for the German examples have been included.

It is interesting to note that Professor Klinghardt's method is now being taught extensively in Schools and Colleges in England and America, and that this must necessarily contribute to the increased efficiency of oral work.

XXX

Professor Klinghardt's 'Sprechmelodie und Sprechtakt' 1923.^{1.}

The most recent publication dealing with the subject of speech-melody is Klinghardt's pamphlet 'Sprechmelodie und Sprechtakt'. In its thirty-one pages Klinghardt reviews briefly (1) the problem of the speech-group (p.5-8); (2) speech-group phenomena in various languages (p.8-12); (3) the intonation of French speech-groups (p.13-17); (4) the intonation of English speech-groups (p.17-23); (5) the intonation of German speech-groups (23-31).

With regard to the problem of the speech-group Klinghardt points out that a speech-group proper must not be confused with the so-called stress-group,^{2.} for speech-groups are primarily, and according to the definition given by J. Passy and Rambeau in their *Chrestomathie française*, groupes d'énonciation, c'est-à-dire les petits groupes de mots intimement liés, entre lesquels /

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1. N.G. Elwert'sche Verlagsbuchhandlung, Marburg in Hessen.
 2. Klinghardt's misconception with regard to Sweet's stress-groups has been pointed out by Coleman in the *maître phonétique*, avril-juin, 1924: and I would add here that Klinghardt appears also to have mis-understood Sievers's speech-groups which are rhythmic groupings.

lesquels on peut à la rigueur s'arrêter dans une énonciation très ralentie.

Klinghardt has shown how the whole science of intonation is based on this definition of the speech-group.

In discussing speech-group phenomena in various languages Klinghardt draws attention to certain resemblances and differences between the germanic and romance languages. A detailed study will be found in Klinghardt's text-books dealing with French and English intonation.¹

The last section dealing with the intonation of German speech-groups breaks new ground. Here for the first time German intonation is systematically studied.

Klinghardt begins by discussing Sievers's interesting statement that there are two melody systems in Germany - one for the South, the other for the North - and it should be noted that Klinghardt has independently arrived at the same conclusion as E.W. Scripture² that the Northern system is the typical melody of standard German.

Further, Klinghardt compares the trend of English intonation in final and suspensive tone-groups with that of German, and notes /

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1. See pp. 83 and 99.
 2. See p. 69.

notes the fundamental differences.

His remarks are illustrated by graphical representations, and here too he uses his dot notation.

The pamphlet as a whole marks a distinct advance in the history of the study of speech-melody.

of which have been brought to light in the course of the study.

III. The development of the study from 1774-1886.

The first historical period or first sight of the

study has been brought to light in the course of the study.

study

1. The first historical period of speech-melody is the period of the early history and early period of the study. The first period, which began in 1774, is the period of the early history and early period of the study.

2. The second historical period is the period of the early history and early period of the study. The second period, which began in 1774, is the period of the early history and early period of the study.

CONCLUSION.

The results of this historical and critical survey of the study of speech-melody may be summed up under two heads:

- I. The facts - hitherto unrecognised or lost sight of - which have been brought to light in the course of the study.
- II. The development of the study from 1775-1923.

I.

The facts - hitherto unrecognised or lost sight of - which have been brought to light in the course of the study are:-

1. That the systematic study of speech-melody is not, according to the popular belief, entirely a product of the twentieth century, but dates back at least to the year 1775.
2. That Joshua Steele (1775) made a highly important contribution to the study of intonation, though it has been passed by almost unnoticed.
3. /

3. That his theories frequently coincide with those of our time¹.
4. That Thomas Sheridan, did not, as has hitherto been believed, "neglect tone entirely."
5. That he made some valuable observations concerning the teaching of intonation.
6. That in his division of texts into speech-groups he anticipated twentieth century phoneticians, his speech-groups being not 'stress-groups,' but 'sense-groups.'
7. That James Rush's study of Intonation, which "won the praise of no less a critic than the late A.J. Ellis," is, in spite of the vast store of material collected within its five hundred pages, of no practical value to the student of intonation.

II.

The development of the study of speech-melody from 1775-1923 may be summarised as follows:-

18th Century.

1. Attitude of the eighteenth century to the study of speech-melody.

Generally speaking the critics of the eighteenth century considered it 'more a matter of curiosity than utility /

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1. See summary p. 9 and my article on Joshua Steele. Mod. Lang. Review, April 1924.

utility to observe the accents of our language.'

The popular but erroneous/was, that the English language was 'monotonous.'

But Joshua Steele showed that 'English speech has a melody peculiar to itself.'

2. The pioneers.

The pioneers in the field of tonetic research were the prosodists and the teachers of elocution.

3. Their work.

Joshua Steele is the most representative of the prosodists. His teaching laid the foundation for others to build on. He showed that the recording of the melody of speech can be reduced to a system, and that it is advisable to use sloping or curving lines instead of musical notes to indicate the melody.

The teachers of elocution, represented by Thomas Sheridan and John Walker, contribute their share to the study of speech-melody, Sheridan's treatise being particularly valuable on account of the excellent observations concerning the teaching of intonation. But Sheridan makes no attempt to record intonation graphically /

graphically, and Walker's method of delineation falls far short of Steele's.

19th Century.

1. General development of the study.

The development of the study of speech-melody in the nineteenth century shows steady if slow progress.

The earlier decades contribute nothing of any value. The Rev. James Chapman follows Steele's methods slavishly, and James Rush's study of intonation is of no practical value to the student of intonation.

A decided advance is, however, made by the contributions of Alexander Melville Bell; his aim, like that of his predecessors Sheridan and Walker is elocutionary, but his outlook is wider and for the first time in the history of the study there are references to the semantic functions of intonation.

2. New aspects

New aspects of the study appear in the works of Köhler and Merkel who are interested in the study from the Physiological /

physiological and psychological standpoints.

Their method of graphical representation is also new and is an improvement on the vague notations given by Bell. They use musical notes to indicate speech-melody graphically.

The Prosodists come again to the fore in the person of Sidney Lanier, the wealth, aptness and interest of whose illustrations make his work in the domain of speech-melody outstanding.

New ground is broken by the phoneticians Passy and Beyer and their contributions are of an eminently practical nature. Comprehensive selections of French everyday speech are given and certain differences between the intonation systems of the romance and germanic languages are pointed out. In an appendix to his book, Passy attempts to give a graphic representation of a prose passage by means of curved lines, and this marks an advance in the graphic representation of intonation.

A bird's eye view of the study of speech-melody is given by Storm, and he continues to be quoted as an authority /

authority by his successors. Storm, however, is none too sure of his ground, and does not venture to discuss the differences between English and German speech-melody.

Sweet's contribution does not advance the study of speech-melody materially, although he does to some extent anticipate the views of the twentieth century.

Viëtor's section on intonation in his 'Elemente der Phonetik' draws attention to the importance of the exact analysis of the pitch variations in speech according to the methods of the experimental phoneticians, i.e. by purely mechanical methods.

20th Century.

The treatment of speech-melody in the twentieth century. .

The first thing that strikes one about the treatment of speech-melody in the twentieth century is the fact that three distinct tendencies or aims are represented in it:

1. A scientific aim.
2. A Practical or educational aim.
3. A_n aesthetic aim.

The /

The first aim is that of the experimental phoneticians - represented by E.W. Scripture, Panconcelli-Calzia and W.E. Peters - They are bound hand and foot by the fact that all their experiments in the domain of speech-melody must be conducted by scientific methods, producing mathematically exact analyses of speech-curves. Methods of determining the melody by the ear alone are rigidly excluded.

What then is the result of the work carried on with this scientific aim? - Accuracy of curve analyses no doubt, but poverty of practical result - a few stray facts of no use to anybody. Calzia, as a matter of fact, occupies himself almost solely with the intonation of African languages, with their fixed pitches, and says hardly anything about the melodies of European languages. E.W. Scripture, it is true, has told us some definite things about 'American' English melody, and has conducted some experiments on German intonation.

W.E. Peters has tried to prove that Professor Daniel Jones's method was not scientifically accurate, but Peters failed miserably in his attempt, for he found that the average value of /

of Professor Daniel Jones's curves was practically the same as that of the curves obtained by tracings with the Kurvenmessapparat.

We are still waiting for the experimental phoneticians to give us a theory of intonation founded on their scientific measurements of speech-curves.

The second aim - the practical or educational aim - is that of the practical phoneticians - representative of whom are - Professor Daniel Jones, Professor Klinghardt, H.O. Coleman, and H.E. Palmer. Their methods do not of course exclude scientific accuracy, but they also take into account the wonderful capacity of the ear for analysing the tunes of speech. The goal aimed at is to teach the student how to acquire the intonation of the foreign language he is studying, for the practical phoneticians believe that to teach the pronunciation of a foreign language without at the same time teaching its characteristic intonation tunes is "an unbalanced procedure."

The results of the work of these practical phoneticians have been far-reaching. Order has been evolved out of chaos. Mere vision has given place to practical reality. Thanks to /

to the labour of the practical phoneticians, intonation can now be taught and is being taught in schools and colleges.

The third aim is an aesthetic one and hardly comes within the scope of this thesis, but it opens up wide vistas for the psychologist, philologist, physiologist and poet. The aim is the analysis of the so-called "poetic melody". Its exponents^{1.} are Rutz, Sievers, Scripture, Saran, Peters, Krueger and Luick. This aesthetic tendency is of the greatest importance in that it marks the beginning of a new era in poetic appreciation and in the speaking of verse.

These then are the three representative tendencies in the study of speech-melody in the twentieth century.

Compared with the development of the study in the eighteenth and nineteenth centuries, the twentieth century shows marked progress from the standpoints of theory and practice. The speech-group has been recognised as the necessary basis for the study of speech melody. Definite rules have been laid down /

1. See bibliography for the respective works.

down systematizing the intonation of English, French and German speech, and practical examples from the living language have been collected. It is only in the twentieth century that we find intonation being taught in schools and colleges. The text-book of intonation is a product of the twentieth century, and proves that the study of speech-melody has at last come into its own.

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